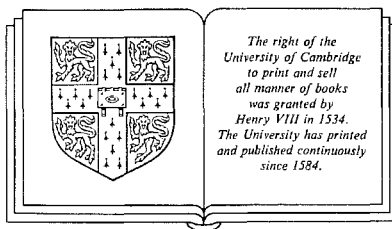

THE MINIATURE WALL PAINTINGS OF THERA

A STUDY IN AEGEAN CULTURE
AND ICONOGRAPHY

LYVIA MORGAN

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To the memory of
MARK CAMERON

With gratitude to the late Professor Spyridon Marinatos,
who presented the results of his excavations at Akrotiri to
the world with enthusiasm and erudition, opening the way
for further analytical discussion in the ensuing years.

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ABBREVIATIONS

AA	<i>Archäologischer Anzeiger</i>	JDAI	<i>Jahrbuch des Deutschen Archäologischen Instituts</i>
AAA	<i>Athens Annals of Archaeology</i>	JEA	<i>Journal of Egyptian Archaeology</i>
Acta	<i>Acta of the 1st International Scientific Congress on The Volcano of Thera held in Greece 15–24 September 1969, ed. A. Kaloueropoulou. Athens 1971.</i>	JHS	<i>Journal of Hellenic Studies</i>
AE	<i>Ἀρχαιολογικὴ Ἐφημερίς</i>	K. Chron.	<i>Κρητικὰ Χρονικά</i>
AJA	<i>American Journal of Archaeology</i>	Marinatos & Hirmer	<i>S. Marinatos & M. Hirmer, Crete and Mycenae. London 1960.</i>
AM	<i>Mitteilungen des Deutschen Archäologischen Instituts (Athenische Abteilung)</i>	MM	<i>Mariners' Mirror</i>
Annuario	<i>Annuario della Scuola Archeologica di Atene</i>	Mon. Ant.	<i>Monumenti Antichi</i>
AR	<i>Archaeological Reports</i> (published by the Council for the Society for the Promotion of Hellenic Studies and the Managing Committee of the British School at Athens)	PM I–IV	<i>A. J. Evans, The Palace of Minos at Knossos, I–IV. London 1921, 1928, 1930, 1935. Index vol. by J. & A. Evans, 1936.</i>
BCH	<i>Bulletin de Correspondance Hellénique</i>	Praktika	<i>Πρακτικά τῆς ἐν Ἀθῆναις Ἀρχαιολογικῆς Ἑταιρείας</i>
BICS	<i>Bulletin of the Institute of Classical Studies, University of London</i>	Prehistory & Protohistory	<i>History of the Hellenic World: Prehistory and Protohistory, G. Phylactopoulos (ed.). Athens 1974.</i>
BSA	<i>Annual of the British School at Athens</i>	RA	<i>Revue Archéologique</i>
Buchholz & Karageorghis	<i>H. G. Buchholz & V. Karageorghis, Prehistoric Greece and Cyprus. London 1973.</i>	Scripta Minoa	<i>A. J. Evans, Scripta Minoa I–II. Oxford 1909, 1952.</i>
Clara Rhodos X	<i>G. Monaco, 'Scavi nella zona micenea di Jaliso', Clara Rhodos X (1941–9) 41–178.</i>	SIMA	<i>Studies in Mediterranean Archaeology</i>
CMS	<i>Corpus der minoischen und mykenischen Siegel. General eds. F. Matz, H. Biesantz and I. Pini. Berlin 1964–</i>	Thera I–VII	<i>S. Marinatos, Excavations at Thera I–VII. Athens 1968–76.</i>
Deltion	<i>Ἀρχαιολογικὸν Δελτίον</i>	TAW I–II	<i>Thera and the Aegean World, I–II, C. Doumas (ed.). Papers presented at the Second International Scientific Congress, Santorini, Greece, August 1978. London 1978, 1980.</i>
Ergon	<i>Τὸ Ἔργον τῆς Ἀρχαιολογικῆς Ἑταιρείας</i>	Tiryns II	<i>G. Rodenwaldt, Tiryns, II: Die Fresken des Palastes. Athens 1912.</i>
Fresco Atlas	<i>Sir Arthur Evans, Knossos Fresco Atlas, with Catalogue of plates by M. Cameron & S. Hood. London 1967.</i>	TUAS 1–9	<i>Temple University Aegean Symposium 1–9. Philadelphia 1976–84.</i>
IJNA	<i>International Journal of Nautical Archaeology</i>	Ventris & Chadwick	<i>M. Ventris & J. Chadwick, Documents in Mycenaean Greek, 2nd edn. Cambridge 1973.</i>
ILN	<i>Illustrated London News</i>		

PREFACE

The wall paintings of the Cycladic island of Thera have astonished and delighted the archaeological world in the richness of their content and the remarkable state of their preservation. Thera has been termed 'Pompeii of the Ancient Aegean' for, like Pompeii, the houses of the prehistoric town were suspended in time by the catastrophic effects of a volcanic eruption. The layers of ejected ash preserved the buildings, the objects within them and the paintings from their walls. They remained protected for three and a half thousand years until excavation revealed the town now called Akrotiri.

The Greek excavations began in 1967 and were temporarily halted at the end of the 1974 season with the sudden death of the director, Professor Spyridon Marinatos. Preliminary reports with an excellent selection of colour and black and white photographs were published for each year (*Thera* I–VII). As the excavation progressed it became clear that one of the greatest riches of Akrotiri was its wall paintings. The West House miniatures were discovered in the 1972 season and published in *Thera* VI. Excavation was resumed and continues under the direction of Professor Christos Doumas, whose final publication of the site will begin with the fascicules on the West House (preliminary reports in *Praktika* and *Ergon*). Full publication will eventually comprise a number of fascicules each concerned with a particular building or the specific contents of a building. Publication of the West House paintings is to appear in a fascicule by Christina Televantou. Those paintings which are fully conserved, including the miniatures, are currently on display in the National Archaeological Museum at Athens. It is envisaged that all the paintings will eventually be exhibited in the new Museum on Thera.

This study is concerned primarily with the iconography of the miniature wall paintings of Thera within

the broader context of the Aegean world. It should be noted that the book relies on published information concerning Thera. Certain details (in Ch. 1, section A, for example) may be subject to revision following the final publication of the West House which will incorporate information based on the notebooks, the storeroom material and further clearing excavation. I am extremely grateful to Professor Christos Doumas for permitting me to study and photograph the miniature paintings for my doctoral thesis, completed in 1980, which forms the basis for this book. The discussion on theme in Ch. 12, the culmination of my interpretation of the paintings, was first presented in an article written in 1981 and published by the journal of the Archaeological Society of Athens, *Archaïologike Ephemeris* (1983). I am greatly indebted to Professor G. Mylonas and the Council of the Archaeological Society of Athens for granting me permission in 1984 to publish the results of my work within the framework of Aegean iconography as presented here.

For help in the practicalities of museum study and photography I am grateful to Professor J. A. Sakellarakis, currently Director of the Herakleion Museum and formerly curator of the Prehistoric collections at the National Archaeological Museum at Athens, to Dr N. Yalouris, formerly Director of the National Museum, and to Dr Katie Demakopoulou, now curator of the Prehistoric collections at the National Museum. For illustrative work I am grateful to Ms Rosemary Robertson (Figs. 13, 14, 19, 20, 23, 24, 49, 62, drawn after photographs) and to Ms Zilla Petit and Mr Tom Telford (Figs. 54, 61; 3–6; after drawings of mine). Of the many friends and colleagues who have helped and advised me, all of whom I thank, I would like to mention Dr Dennis Brown; the late Professor Mark Cameron; the late Professor J. L. Caskey; Professor Jack Davis; Dr Philip Davis; Dr D. M. Dixon; Mr Peter Dorrell; Professor John Evans; Dr F. C.

Fraser and Dr P. H. Greenwood of the British Museum (Natural History); the late Miss Dorothea Gray; Mr F. N. Hepper of the Royal Botanic Gardens, Kew; Dr Reynold Higgins; Professor S. E. Iakovides; Dr Eleni Mantzourani; Dr Nanno Marinatos; Ms Marisa Marthari; Dr John Nandris; Mrs Clair Palyvou; Dr Ingo Pini; Professor N. Platon; Professor Jeremy Rutter; Professor Elizabeth Schofield; Lt Cdr A. F. Tilley. The initial research for this work was undertaken at the University of London. I would like to thank Miss Anna Healey and the librarians of the Joint Library of the Hellenic and Roman Societies, London, for all their help over the years, also the librarians of the Institute of Archaeology of the University of London, the British School at Athens, and the Museum of Classical Archaeology in Cambridge. The work was originally prepared for publication under the Eugenie Strong Research Fellowship at Girton College, Cambridge. The revised version was prepared under a University of Wales Research Fellowship at

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LYVIA MORGAN
January 1985

CHRONOLOGICAL TABLE

YEARS BC	CRETE		CYCLADES	MAINLAND	EGYPT		
	PRE- PALATIAL	NEOLITHIC	NEOLITHIC	NEOLITHIC	PRE DYNASTIC		
3000		EM I	EC I	EH I	EARLY DYNASTIC	I	
2900						II	
2800						III	
2700					OLD KINGDOM	IV	
2600		V					
2500		VI					
2400		EM II	EC II	EH II	1ST INTERMEDIATE	VII-X	
2300							
2200		EM III	EC III	EH III	MIDDLE KINGDOM	XI	
2100							
2000	1ST PALACES	MM I	A	MC	MH	XII	
1900							B
1800	MM II	A	MC	MH	2ND INTERMEDIATE	XIII-XVII	
1700							B
1600	2ND PALACES	MM III	A	LC I	LH I	NEW KINGDOM	
1500							B
1400	POST- PALATIAL	LM I	A	LC II	LH II	A	
1300							B
1200		LM III	A	LH III	C		
1100						C	LC III
1000	SUBMINOAN		SUBMYCENAEAN	LATE DYNASTIC			

All dates are approximate. Aegean divisions represent ceramic phases with the exception of the Palatial periods of Crete.

Abbreviations:

EM, MM, LM: Early, Middle, Late Minoan.

EC, MC, LC: Early, Middle, Late Cycladic.

EH, MH, LH: Early, Middle, Late Helladic (Mycenaean).

1

INTRODUCTION

A. SUBJECT

The miniature wall paintings of Thera provide a rare opportunity for us in the twentieth century to view a contemporary artistic expression of Aegean Bronze Age culture. Since their discovery, the paintings have excited much attention, for their astonishing state of preservation – unparalleled in Minoan–Mycenaean painting – reveals a richly detailed iconography. The unique depiction of a flotilla of ships, in particular, engendered an enthusiastic response in which at first theories of Minoan colonies, nautical warfare and triumph were put forward.¹ This book sets out to analyse the iconographic details of the paintings, placing each within the broader context of the Aegean world. Through this analysis a unifying theme for the West House paintings is proposed: of aquatic activity and its celebration, set firmly within the Aegean, held within a particular season and of direct relevance to the Bronze Age people of the island of Thera.

The paintings, covered by a protective layer of fine ash at the time of the volcanic eruption of the island in the first half of the 15th century B.C., have survived the years to a remarkable extent. The excavator Professor Spyridon Marinatos, the conservators T. Margaritof and S. Perrakis, and the artist K. Iliakis, were able to reconstruct the fragments into a series of friezes and to establish to a large degree of certainty to which wall each frieze belonged.² With this combination of good fortune and expertise an opportunity is provided in which the relationships of the paintings may be held in mind as they were originally intended to be seen. This unprecedented situation enables us to determine the degree of thematic cohesion expressed in this group of scenes and to consider the difficult question of narrative sequence in Aegean art.

The finely descriptive detail of the miniature scenes,

upon which understanding of thematic content depends, provides an opportunity to study aspects of the environment and the material culture of an important Cycladic island at the beginning of the Late Bronze Age. Thera has been known to have been occupied during the Bronze Age ever since the results of the first tentative excavations towards the end of the last century were correlated with those of Minoan Crete.³ But it was only with the excavations at Akrotiri on the south coast that its full importance as a cultural centre was realized. Evidence suggests that Akrotiri was the main island settlement, surrounded by several small hamlets and isolated buildings.⁴

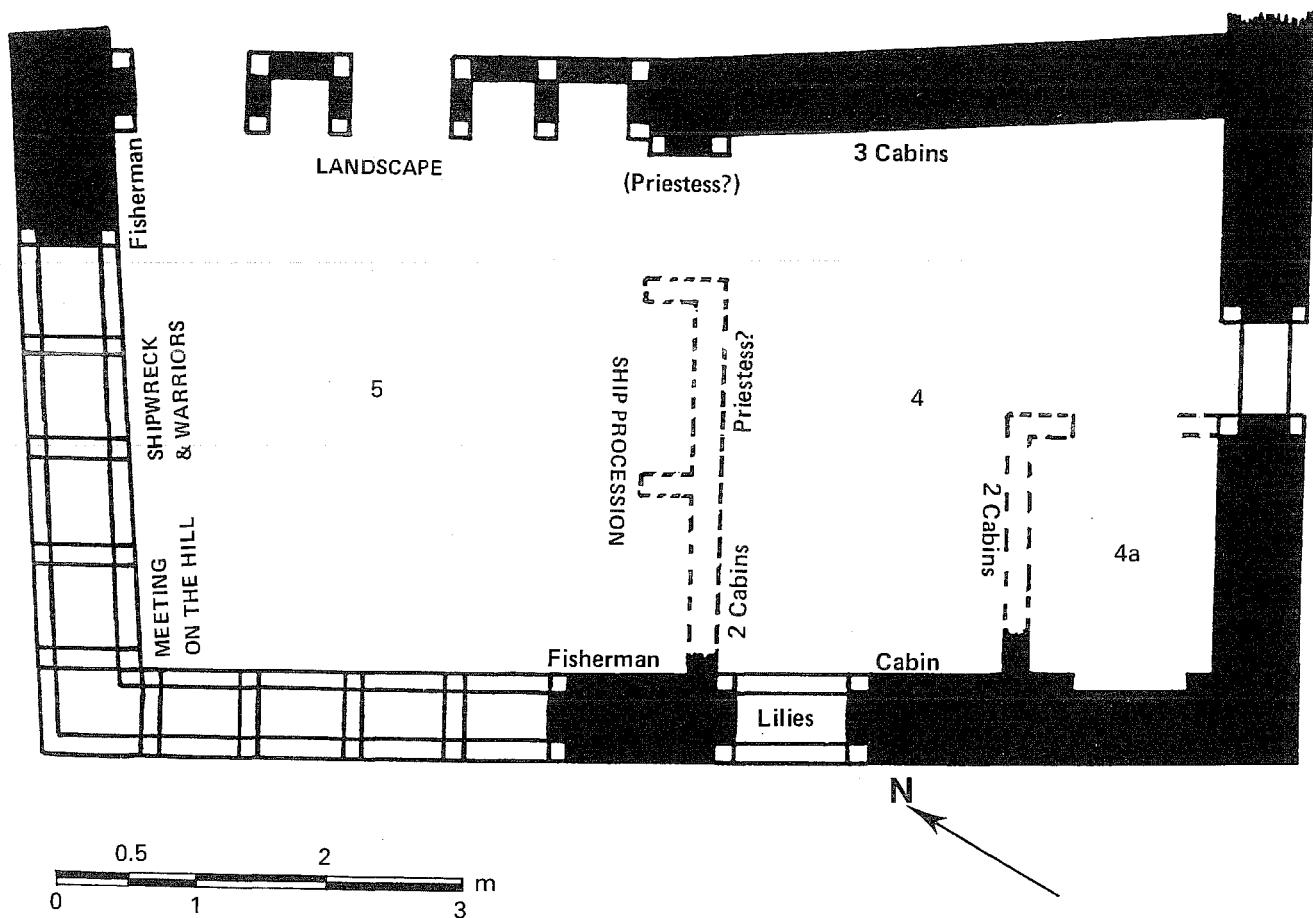
As yet no palatial structure can be recognized, but Akrotiri gives a striking impression of prosperity and originality, not least through its murals. A glance at the Appendix on pp. 173–4 will reveal the density of wall paintings from Akrotiri at the present stage of publication, and the variety and originality of themes represented. Of the many buildings with murals, Xesté 3 in the extreme south west of the excavated area and the so-called West House, actually in the centre of the site, stand out as particularly significant (Fig. 1).⁵ To date, miniature scenes occur only in the West House.

The West House is an impressive free-standing building situated in a central position with access from a public road, its southern façade fronting onto a spacious square. Two storeys survive: a ‘basement’ (ground floor) and first storey, but a third existed in parts.⁶ From the main entrance, which is on the right side of the façade, a doorway on the left provided access to the basement workshop and storerooms, while a staircase led up to the first storey into a large central room (3) which was lit by an exceptionally wide window on the southern façade overlooking the square. From this room access to the west wing (Rooms 4 and 5) was from the north-west corner. Access was also gained from the northern sector (6).⁷

Rooms 4 and 5, which were decorated with the murals, were lit by a series of four windows along both the West and North Walls of Room 5 and by a single window on the West Wall of Room 4. The floor of Room 5 was laid with schist slabs over the usual beaten earth. The South Wall separated Rooms 5 and 4, with a connecting doorway in the east corner. The eastern half of this wall was built of stone, but the remaining, repaired section was of unbaked bricks.⁸ Room 4a was divided from Room 4 by thin clay partitions.

There is no clear indication of whether this was a public or private house. The position in the town might suggest the former, but not the layout of the rooms. The painted rooms were reached only after crossing through the rest of the house, and could not be reached directly from the road. Sp. Marinatos was under the impression that they represented a suite of living room (5), bedroom (4), bathroom-kitchen (4a). More recently, Nanno Marinatos has persuasively argued that the rooms constitute a shrine complex, with Room 5 as the main shrine and Rooms 4 and 4a as the preparatory area.⁹

The west wing had a finer, more varied selection of pottery than elsewhere in the house. Imported Late Minoan Ia ware was found in Room 5 together with the fragments of the miniature paintings.¹⁰ Part of a painted stucco table of offerings was found on the sill of one of the windows, decorated with reed-like vegetation.¹¹ A black serpentine bird's-nest bowl was found in the same room.¹² Altogether the room had a rich collection of objects in harmony with the impressive decoration of the walls. On the window-sill of Room 4 were two plain handleless bowls and a pyxis-strainer decorated in a combination of 'Minoanizing' spirals and Theran crocus flowers on a hilly ground.¹³ Amongst the other finds from the room was a clay lioness-head rhyton.¹⁴ Room 4a had fragments of a bathtub and a bronze tripod-cauldron, as well as a built 'hearth' and an installation of clay pipes, and was interpreted by Marinatos as a bathroom and kitchen.¹⁵ Two large jars filled with plaster, two pebbles which had been used for grinding colour and a bowl containing red pigment suggested to the excavator that the little room was being decorated at the time of the destruc-



2. Ground-plan of Rooms 4 and 5 of the West House showing the distribution of the wall paintings.

tion. N. Marinatos, on the other hand, suggests that both the red pigment and the installations were used in the rituals for the shrine.¹⁶ A magnificent painted stucco table of offerings stood on the window-sill.¹⁷

The proportions of Rooms 4 and 5 in the upper storey are sufficiently well known from the excavator's plans and reports for a reconstruction of their appearance to be attempted. Figs. 2–6 are suggestions for the positions of the paintings on the walls of both rooms.¹⁸

It must have been a startlingly impressive sight on entering the painted rooms. They were rich, bright and carefully proportioned. In Room 5 light streamed through the rows of windows onto the schist flagstone floor. Rows of cupboards on the East Wall were painted dark red¹⁹ and on their shelves were the luxury imported Minoan wares and the local pottery with its lively decoration. A painted dado imitating marble and wood panelling ran around the lower edge of the walls, the 'wood' corresponding to the real wooden beams of window-frames and shelf supports above.²⁰ In one corner of each wall a large space was filled either with a doorway or with a painted panel of a Fisherman. Along the upper sections of the walls, above the windows, shelves and doors, ran the miniature friezes. As the occupants walked from Room 5 through to Room 4 they would have encountered the large Stern Cabin paintings. Standing on the other side of the door looking from Room 4 through to Room 5, they would have seen one of the large panels of a Fisherman on the opposite wall. It is important to remember the relationships as there can be no doubt that the placing of paintings on the walls of both rooms was carefully and significantly thought out.

Fig. 2 shows to which wall each painting belonged, while Figs. 3–6 suggest their relative position and height. The Ship Procession frieze is virtually complete at 3.90 m, and would have fitted exactly along the South Wall (Fig. 4). The Landscape frieze is incomplete at 1.80 m, and was thought by Marinatos to represent less than half of a total 4 m.²¹ It may, however, have run above the cupboards only, the total length then being just over 2.50 m. If the frieze ran along the whole East Wall, the surviving section is likely to have belonged to the southern end. The East and South Wall scenes are exceptionally well preserved, but in the destruction of the building the West and, to a lesser extent, the North Walls collapsed outward into the street. Virtually all the West Wall scenes and a large part of those of the North were therefore lost in the destruction rubble outside the building. It is impossible to tell whether the scenes began on the North or missing West Wall; but that the West Wall also had a frieze is possible both from the layout of the two rooms and from the discovery of a single fragment thought to be from this area.²²

Moving around the room: on the North Wall to the left was²³ The Meeting on the Hill, while to the right of this were the related scenes of Pastoral Settlement, Shipwreck and Warriors (Pls. 1–3 and Col. pl. A).²⁴ Besides these well-preserved scenes, there are a few unpublished fragments, three of which – fragments of a boat, a further drowning figure, and two bulls, on display in the National Museum of Athens – almost certainly came from this wall.²⁵ Towards the east end of this wall, below the frieze, was a large panel of a Fisherman (Pl. 199).²⁶ At the beginning of the East Wall, an area comparable to the panel was occupied by a doorway, after which The Landscape painting continues the miniature scenes above (Pls. 4–7 and Col. pl. B). On the South Wall, a further doorway occupied the first space, while the scenes continued above with the magnificent Ship Procession frieze (Pls. 8–13 and Col. pl. C). On the West Wall, another panel of a Fisherman (Pl. 198, poorly preserved) preceded the row of windows, above which there may have been a continuation of the miniature scenes. Unfortunately, the content of the one fragment reported from this area was not mentioned (n. 22). Amongst the unpublished fragments on display in the Athens Museum is a fragment of a ship and, since it cannot fit into The Procession scene and is not recorded amongst the fragments from the North Wall, it may be that this is the fragment in question.

Moving now to Room 4: a painted dado to a height of 30 cm, as in the preceding room, ran along the bottom of the four walls. The imitation marbling was separated by narrow strips of yellow (= 'wood') which did not, in this case, relate to wooden structures above. Eight massive Stern Cabin paintings (Pls. 178–9; Fig. 97) surrounded the walls, the Cabins representing in gigantic scale those of the ships in The Procession in the preceding room on the South partition wall separating the two rooms. Not all the Cabins are yet published, but those that are measure approximately 1 m in width. All but one would have fitted appropriately in the spaces on the walls (Figs. 5–6): three on the East Wall (that on the eastern side may have been narrowly proportioned, for Marinatos reported finding a 'half' Cabin in the east area); two on the South partition wall; one on the West Wall, next to the only window in the room which was elaborately decorated with imitation painted marbling on the sill and Red Lilies in marble vases on both the inner sides (Pl. 200);²⁷ two at the western end of the North Wall (the partition wall between Rooms 4 and 5) adjacent to where the panel of The Priestess may have stood (Pl. 180), unless, as Doumas suggests, this stood on the door jamb between Rooms 4 and 5 (above, n. 18).

The dadoes, border bands and miniature friezes were painted directly onto the plaster of the walls. Marinatos thought that The Priestess, at least one of the Fishermen,

and perhaps the large Cabins, were painted onto separate clay panels coated with lime plaster which were then inserted into the walls much as a modern painting is 'hung'.²⁸ Doulas, however, considers there to be no evidence to support this assumption.²⁹ The figures of the Fishermen and (if it came from the wall and not from the jamb) the Priestess faced towards the direction of the miniature frieze or Cabin on their respective walls. Their proportions fit so exactly into the spaces on the walls that, regardless of how they were painted, the whole effect must have been planned at the same time.

Dating

The paintings can be confidently placed at the beginning of the Late Bronze Age (Late Minoan Ia). Yet a precise dating is not without problems. Ever since Marinatos first postulated (in 1939) that the widespread destructions in Crete towards the beginning of the Late Bronze Age were caused by the volcanic eruption of Thera, controversy has surrounded the issue. This is not the place to enter into the debate, for we are not concerned with the date or nature of the Cretan destructions, nor even with the date of the volcanic eruption, but with the date of the execution of the murals. Only the sequence of events which provides the time span for the paintings is relevant here.³⁰

The town of Akrotiri thrived during Middle Cycladic III-late Cycladic I, datable to the latter half of the 16th century B.C. The era in which it developed into an important cultural centre therefore corresponds to the period of increased Minoan activities in the islands (Middle Minoan IIIb-Late Minoan Ia). Earlier occupation of the site, dating back to the Early Cycladic period, is indicated by a few isolated finds.³¹ But no stratigraphic deposits prior to the Late Cycladic phases have been reported, as the site was partially levelled after the seismic destruction of many of the buildings (including the West House) during an early phase of Late Cycladic I, around 1550.³² No cultural break between the Middle and Late Bronze Age is discernible.³³

At various parts of the site, it was noted that earlier plain or banded painted plaster lay beneath the final paintings.³⁴ In some cases this earlier plaster had been used in fragments as fill in the new wall surface; in others it had been levelled while still on the wall, and then replastered. It was after the repairing of the buildings that the first representational murals were executed.

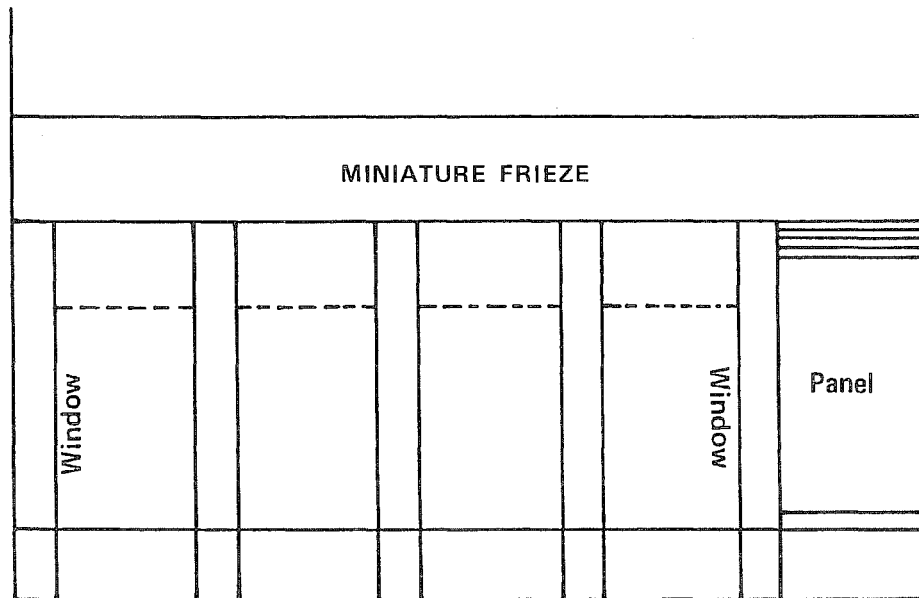
But the new paintings would not have been enjoyed for long by the ill-fated Therans. The townspeople were at least lucky enough to receive warning of the impending disaster which was finally to submerge their homes. Fine pots and large storage jars holding food were hoarded in safe places in the vain hope that the danger would sub-

side.³⁵ When it did not, the refugees took almost all their valuables away with them; the site has so far yielded virtually no precious metals. The danger from which the Therans fled was an earthquake preceding the volcanic eruption.

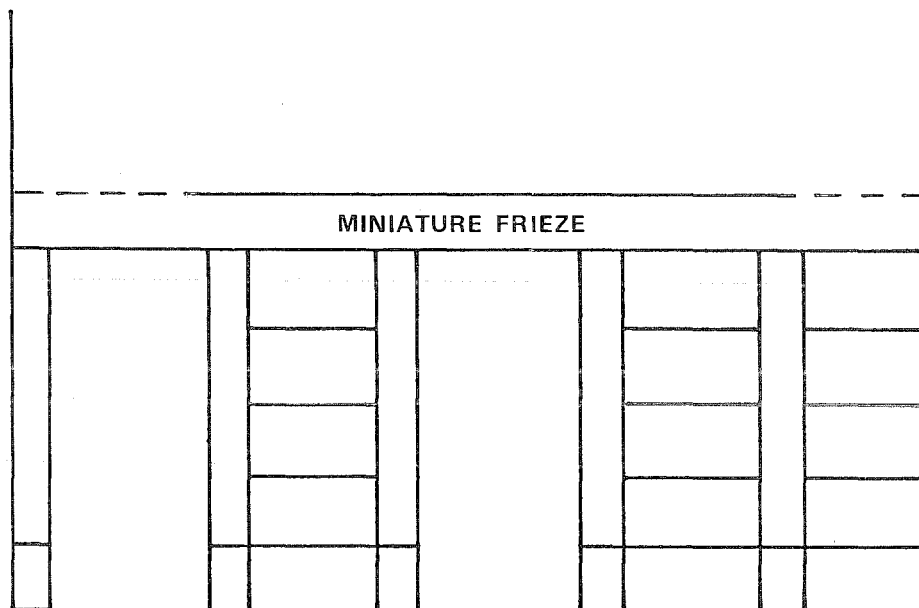
After the initial abandonment, some of the Akrotiri inhabitants returned to their town. Doulas considers that these were not 'squatters' as Marinatos originally thought, but people embarked on a communal programme of clearing roads and houses.³⁶ This effort was not rewarded, for before the rebuilding had made much of an impression the site was again abandoned, this time finally. Once again, the inhabitants received due warning of the disaster. No human remains were found under the debris and the only animal caught was an unfortunate pig.³⁷ The final paroxysm of the volcano covered the entire island with mountains of ejected tephra; and shortly afterwards the centre of the island collapsed, forming the present caldera. The island was uninhabited for at least a hundred years afterwards.³⁸ Where the inhabitants escaped to and where they subsequently settled remains a mystery. One thing is certain: the escape would have been by sea. When, in recent years, the volcano of the small Icelandic island of Sertsi violently erupted, it was reported that the sea-faring inhabitants were totally evacuated from the island in only six hours. The Therans must also have made an efficient marine escape, and ships such as those represented in The Ship Procession frieze would have been their salvation.

According to the sequence of events outlined above, the rebuilding of early Late Cycladic I, c. 1550, provides a *terminus post quem* for the execution of the murals. The *terminus ante quem* is, of course, established by the abandonment of the site (unless we make the unconvincing claim that the post-earthquake repairers were responsible for the paintings).

The prevailing opinion is that the latest pottery at Akrotiri is the local equivalent of mature Late Minoan Ia, c. 1500, and Niemeier's study of the imported Cretan pottery shows all to be LM Ia (albeit mature) with none of the so-called sub-LM Ia which elsewhere co-existed with LM Ib wares.³⁹ Luce prefers a later date of c. 1470, bringing the dates of a few examples of the local pottery into line with those of LM Ib Crete.⁴⁰ Such problem as there is may be largely a question of the duration of the ceramic phases. Though traditionally 30-50 years is attributed to LM Ib, the stratigraphic evidence indicates that LM Ia wares overlap into LM Ib, and the characteristic LM Ib Marine Style survives only in very small quantities and is therefore unlikely to have been produced over a long period.⁴¹ Unlike other major island sites, no Marine Style sherds have as yet been recovered from Thera,⁴² nor have other purely LM Ib ceramics. Yet



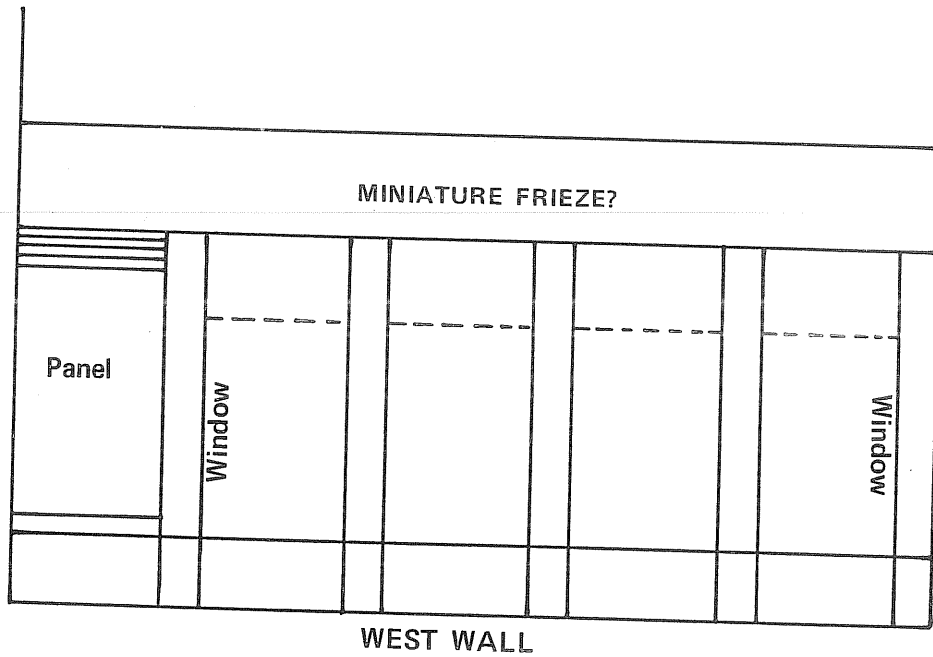
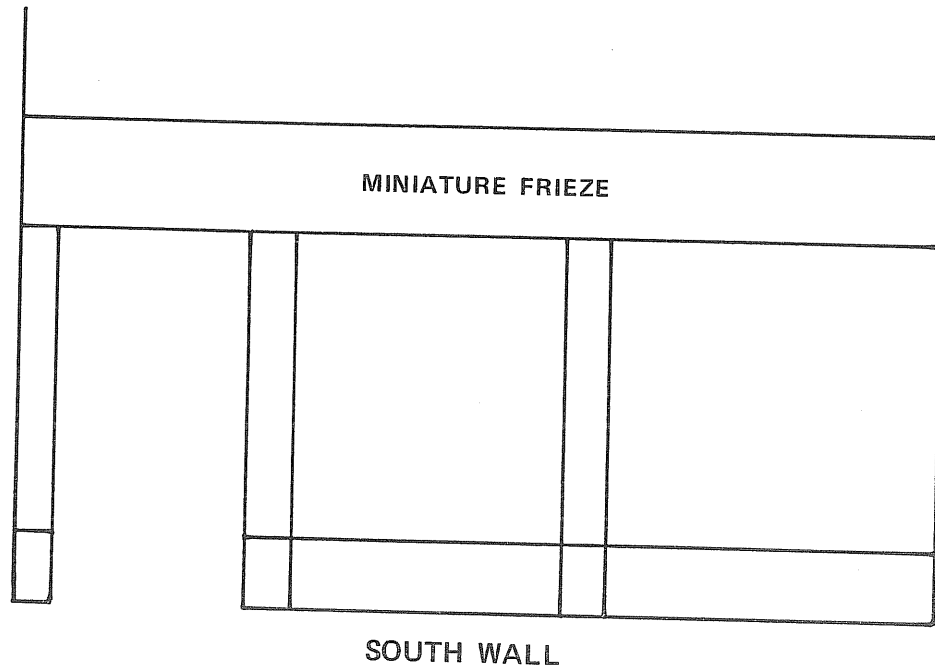
NORTH WALL



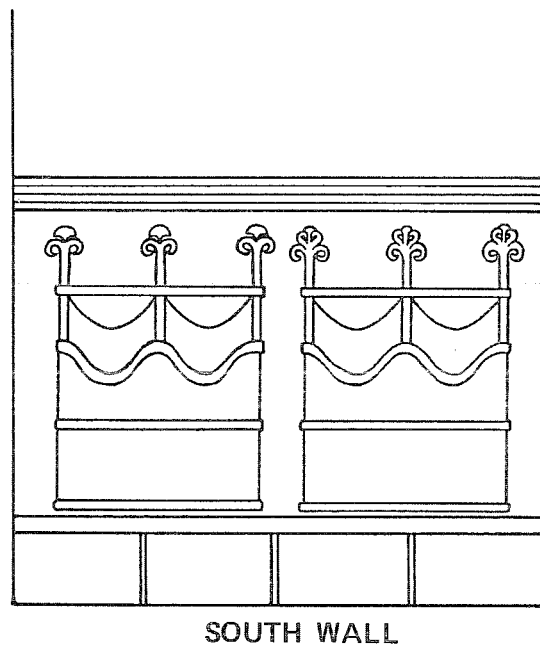
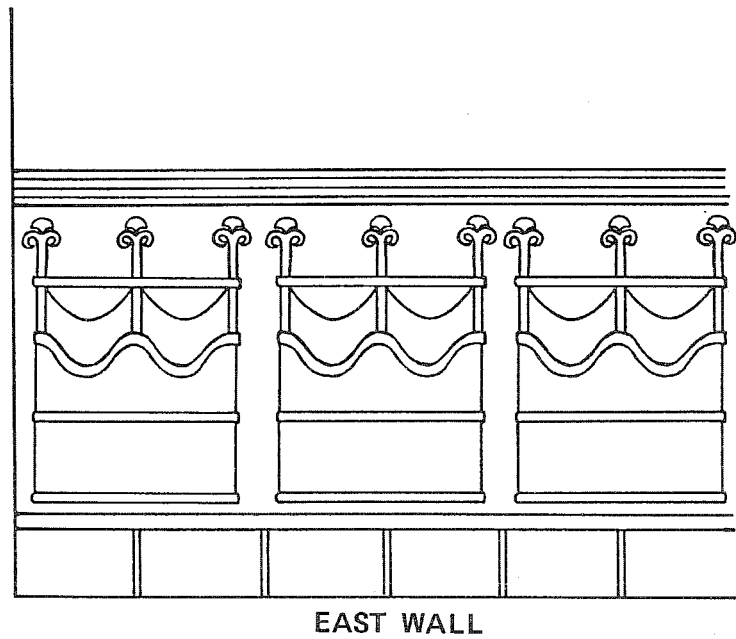
EAST WALL



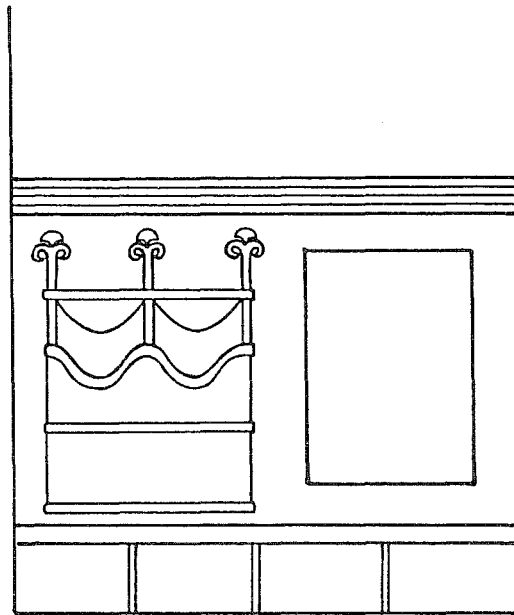
3. Proposed elevation of the North and East Walls of Room 5.



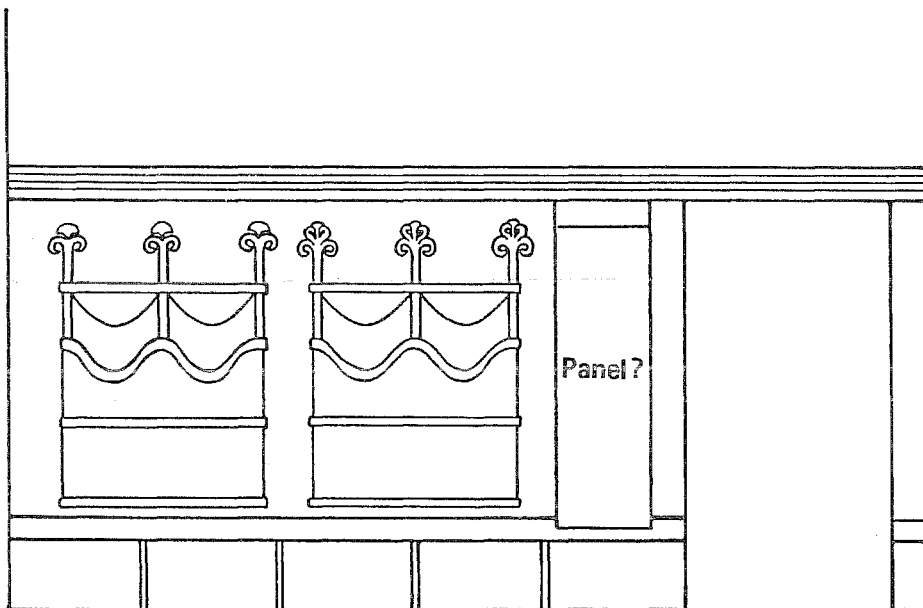
4. Proposed elevation of the South and West Walls of Room 5.



5. Proposed elevation of the East and South Walls of Room 4.



WEST WALL



NORTH WALL



6. Proposed elevation of the West and North Walls of Room 4.

it may be that the Akrotiri abandonment occurred immediately prior to the export of LM Ib wares. For an analysis of Theran iconography reveals that certain visual ideas expressed in the paintings appear in modified form on Late Minoan Ib/Late Helladic IIa ceramics but not earlier (below, pp. 166–7).⁴³ The dating of the execution of the paintings may not be precisely defined, but the span may plausibly be extended to include the early 15th century.⁴⁴

B. METHOD AND AIMS: A DEFINITION OF ICONOGRAPHY

'Iconography' is a term employed in the disciplines of art history and archaeology which can be variable in application depending upon the person using it and the discipline involved.⁴⁵ It may, therefore, be useful to define the basis of iconography and to outline the significance of its application to the study of an ancient culture.

Iconography is a branch of study concerned with visual art which in some way *represents*; that is, imagery which refers beyond itself, as opposed to the internal reference of ornamental pattern. It has to do with meaning (semantics) rather than solely with form (aesthetics). Use of a definition implies strict control of language within the tenets laid down. Therefore, since I consider the study of iconography to include *all* aspects relevant to the interpretation of a pictorial representation, I shall not offer a particular doctrine. I shall, however, attempt to define some of the aims of what may appear from the above definition to be a rather wide field of study, and to determine the methodology involved.⁴⁶

In any given image, a complexity of meanings may be intertwined; yet in the process of iconographic interpretation, the levels of meaning which can safely be extracted from the image depend on the knowledge available to the interpreter. While an historian may draw on literary, historical and social documents in order to comprehend the cultural traditions implicit in the visual imagery and the milieu of the particular age which produced it, an archaeologist may on occasion have to reverse the process and attempt the reconstruction of the customs and cultural traditions, let alone the 'spirit of the age', through a study of iconographic representation. Excavation may provide the relevant information for the material world of objects, but the visual images themselves may be the most informative source for the concepts and beliefs of the culture under study.

The ultimate aim of the iconographer is the same whichever the discipline: to comprehend all manner of meanings held within the pictorial image. But the degree to which this can be achieved within a level of plausibility varies widely according to the nature of the surviving evi-

dence. Equally, the methods used to achieve the aim vary according to the type of evidence available for the study of the particular culture.

With Aegean Bronze Age iconography there are four areas of evidence on which to draw for explanatory information: (1) the physical world; (2) archaeological excavation; (3) written texts: the Linear B tablets; (4) comparative iconography.

(1) *The physical world*

The archaeological approach to the physical world – whether of the natural environment or of man-made objects – differs from the historical approach. While the historian is usually concerned with objects only in as much as they identify and qualify themes and concepts (a table and thirteen men are essential elements of a Last Supper), the archaeologist is interested in the objects themselves as details of the culture under study. In building up an overall picture of the culture, each small detail is important. In this study, therefore, I have tried to identify each plant, animal, technological object, in real terms and to place its function in the society. In studying the various details of the paintings I have constantly had to widen the range of my practical experience by consulting written works and experts in the particular fields. It has been necessary to come to terms with the intricate jargon of botany, zoology and nautical technology. Once the first stage of identification was reached, it was then necessary to confirm and enlarge the information by checking the range of possibilities involved. Plants and animals must be checked against their distribution and indigenous homes; the construction of the ships must be checked against the range of ethnographic and archaeological possibilities. It is all too easy to fall into the trap of anachronism in the study of technology and to be confused by the modern distribution of imported species. Finally, there are many questions relevant to the objects of the physical world which cannot be answered without drawing from our other categories of information. So, for example, a representation of a crocus growing in a meadow may be tentatively identified as the saffron crocus, but the significance is lost unless we know of the manufacturing use of the stigmas, and the significance remains unproven unless further evidence – such as the listing of saffron under spices and dyes in written texts – can be adduced.

(2) *Excavation*

This is the specific source of information which controls all further fields of study. Without excavation there would be no knowledge of the culture at all; nor for that matter would there be known wall paintings. But excavation is a means to an end, the end being the understanding of the physical and intellectual world of the society in question. The study of the site and finds of an excavation

is in many ways parallel to the study of the iconography of the excavated art; certainly the two complement one another. Almost all areas within this present study have been supported by excavation reports, but I hope also that a study of the paintings will illuminate aspects of the culture which could not be determined through excavation alone. Architecture is a good example of such reciprocal knowledge. Excavation provides the internal ground-plan, iconography the external façade. The same applies to the fauna and flora. Where specialized scientific studies have been undertaken, a system of corroboration between excavation and iconography may be established: a particular animal shown to be domesticated, a particular plant cultivated and so forth. In the case of material culture, surviving objects may corroborate the information in the paintings: the jewellery and weapons, for instance. Then the context of the objects as excavated and as represented will be mutually important in understanding their use.

But while iconography may support the findings of archaeological excavation, it may also be of unique importance in contributing new information both through a study of the depiction of perishable materials from daily life (textiles, woodwork, leather, etc.) and through an attempt to understand the ideas, beliefs and events of the people of the time as expressed in their visual language. For a pictorial representation may describe both a thing and an idea simultaneously, so that to extricate one from another may be helpful during diagnosis but is not ultimately meaningful. Our own frame of reference may not enable us to explain more than the thing with any degree of certainty, but we must at least be aware of the possibilities of associated idea(s). An associated idea may relate to the economic world of the people or to their beliefs and intellectual world. It may be possible in either case to elucidate the image-associations of thing with idea through the context of excavation. Thus, for example, the discovery of spindle whorls and bone debris in a domestic site establishes that the pictorial representation of a herd of sheep could mean 'clothing material' and 'food', rather than 'zoological curiosity' (like monkeys) or even creatures based on hearsay and artistic representations (like Dürer's armoured rhinoceros and its successors). But there will always be a great many less straightforward image-associations. It is no use our simply defining a griffin as 'an eagle-headed winged lion' as though that somehow explains it. It describes the thing but does not explain the idea which led to its creation as a pictorial being. Generally, the cross-referencing of excavation and iconography is restricted to economic factors and limited material factors pertaining to religion. Many important aspects of cultural thought (popular beliefs, myth, cosmology) and

event (festivals, rituals, siege) may be understood only through a study of written sources and comparative iconography.

(3) *Written sources: the Linear B tablets*

Clearly, a prehistorian dealing with a preliterate society has a more restricted vocabulary from which to draw than an historical archaeologist fortunate enough to possess written documents of the period. For those working within the Aegean Bronze Age, the situation lies between these two extremes. Written sources we do have, but those which can be deciphered – the Linear B tablets – prove to have a limited, bureaucratic content. While they are of enormous importance to the overall study of the period, the lists of objects in themselves are relevant mainly to the physical world; the world of ideas and associations, which one would expect from literary and historical documents, is generally missing. Where the Linear B tablets begin to suggest such information is through context. The grouping of certain objects as 'spices', 'offerings', etc. is relevant in placing the significance of the thing in the particular culture. Equally the world of events is suggested in lists of calendrical offerings, and social structure is implied in categories of occupation and rations of products. Where appropriate, I have referred to the information in the tablets, but inevitably its relevance to the paintings is restricted.

Occasionally I have referred to the more informative contemporary documents from Egypt and the Near East where the world of ideas and associations is frequently expressed. These are not related to the Aegean with assertion, but are used as oblique light on a particular subject which may establish a frame of reference. As an example: the botanical details of the palms in The Landscape painting suggest cultivation, but the reason for this cultivation cannot be established through a study of Aegean sources alone. We need instead to consider the range of possibilities in the lands in which the palm is normally grown. Written texts, as well as comparative iconography, will then explain the variety of by-products of the plant in use in the ancient world and the concept of the palm-garden.

In the Aegean, written language, which is frequently the richest source of cultural meaning elsewhere, is on the whole less informative than pictorial language.

(4) *Comparative iconography*

Comparative iconography is of primary importance throughout the study. Only a very few elements have 'no parallels'. The comparative images are used in several ways. First, the 'popularity' of the image is considered: whether it is a common motif or a rare instance; the history of the image in Aegean iconography is traced (the earlier and contemporary instances, and occasionally the later development as well if relevant) in order to place the

image within its iconographic context. Next, the juxtaposition of the image in relation to others is considered, providing a basis for an interpretation of its broader meanings: the image-associations; this in turn leads to the analysis of comparative themes.

The range of comparative iconography is drawn mainly from the Aegean cultures, but also (where relevant) from cultures with which the Thera appear to have had trade and contact. Minoan Crete, the Peloponnese (above all the Mycenae Shaft Graves), and nearby islands such as Melos and Kea provide the richest and most wide-ranging parallels, reflecting the close relationships between these societies. Further afield, there are some specific connections with both Egypt and the Near East, as one would expect from a sea-faring people in an age of international trade. The position of Thera in the Aegean world and some of the implications of trade and contact are discussed in the Concluding Comments.

Comparative material is not restricted to wall paintings: glyptic art, metalwork, ceramic decoration and (outside the Aegean) relief sculpture are all useful sources of iconographic reference.

The main principles of iconography have already been outlined and their application to comparative iconography is self-evident. But one fundamental aspect of the subject still needs to be considered. Throughout, the distinction that we are dealing with meaning rather than form is maintained; but, if rigidly applied, this can be a dangerous distinction. In order to elicit meaning, it is essential first to be able to interpret the form in which it appears. This is an infinitely complex procedure. A detailed analysis of the structural principles of Aegean art which enable forms to be read as objects would constitute a study in itself.⁴⁷ Somewhat reluctantly, therefore, we must for the moment accept that these principles have been assimilated without full analysis by those involved in the study of meaning. This is how we understand our own language unless we are analytical linguists. But since iconographic interpretation may be ambiguous if we 'read' the information incorrectly, it is essential that at least the basic structural principles of the visual language be clarified.

Space, time, movement, stasis, form, line, light, shade, colour: these are the basic principles of visual structure. With an understanding of the ways in which these may be handled according to convention, it is possible to proceed to the elements which are constructed from these principles: the elements of iconography.

I shall not be dealing with style as such; in other words, I shall not be defining the technique, brush-work and manner of a particular artist.⁴⁸ But it is impossible to dis-

cuss many aspects of iconography without implying a knowledge of style in its broader sense, as the conventional mode of expression of a given culture through the structure of its visual language. This I refer to as idiom (n. 46). Style is the performance, idiom the structure. The artist cannot develop a performance without knowledge of a language in which to perform, but the language is independent of the individual artist.⁴⁹ To be more specific, let us look at a few of the ways in which some of the basic principles of visual structure – space, time, colour, form and line – are handled in the paintings.

Space (and relative scale)

(a) Space in Aegean art has neither the 'objective' linear perspective of the post-Renaissance West, nor the 'subjective' hierarchic scale of figures and objects of Egyptian art. Space is interpreted largely in terms of formal necessity within the boundaries of credibility. Buildings, for example, are tiny in objective terms when compared with human beings, but the new relationship between the two allows the viewer to see both simultaneously. One does not lose sight of the figures for the magnitude of the buildings, nor does one sense the overwhelming emotional importance of certain large figures when compared to their smaller less significant fellows or surrounding buildings. The elements are in proportion to one another in relation to the painted surface, not in relation to real or mathematically-defined vision nor in relation to cultural priorities. Once we realize that the scale of figures to buildings is consistently 'wrong' we can form expectations of 'real' size based on the proportional difference between them.

(b) Use of the two-dimensional surface of the wall to tilt a scene towards a 'bird's-eye-view' occurs subtly in almost all the scenes, but is so unobtrusive that it appears natural. Objects and events are not usually placed one above the other in registers (as in some Egyptian reliefs), or in their own individual spatial areas in an otherwise unified formal arrangement (Persian miniatures), but neither do they relate to the way in which we would see them from a normal position on the ground. Simultaneously we see boats, an entire town, building after building, the mouth, middle and source of rivers, trees and animals on distant hill-tops (the Departure Town in The Ship Procession painting), and all without shifting relative size to accommodate distance. The information is given with such ease that the device is absorbed in the scene and space appears acceptable. In order to accept such a divergence from the natural world, it is only necessary for the convention to be consistently applied so that we become familiar with the spatial structure of this visual language.

Time

The unity of action in the South Wall painting of *The Ship Procession* is sharply contrasted with the multiplicity of events in the North Wall scenes of *Meeting*, *Pastoralism*, *Shipwreck* and *Warriors*. Two very different concepts of the organization of time within the visual structure are therefore used within a single group of paintings. It has not previously been possible to see this contrast close at hand, for no other group of paintings has been preserved to the same extent, and examples of multiple events have been restricted to single surfaces of glyptic work or vessels.⁵⁰ In *The Procession* painting virtually every figure is in some way concerned with the central event: the procession of ships. We may imagine a compression of space and time in the procession itself which appears to depart, travel and arrive in a single convoy, but the idea and the event are unified with the action. By contrast, at least five separate events occur in the North Wall scenes of *Meeting on the Hill*, *Pastoral Settlement*, *Shipwreck* and *Warriors*, events which are unlikely to have occurred simultaneously. The figures in each separate group are self-sufficient, appearing not to notice the turmoil of the surrounding events. Thus: (1) the men meet solemnly on the hill; (2) women, having drawn water from the well, are carrying the pots on their heads; (3) herdsmen lead their flocks of sheep and goats; (4) armed soldiers climb the coast; (5) ships are in trouble and figures drown in the sea. No one in the settlement appears to see either soldiers or drowning men; and remembering from the opposite wall the avid concentration and involvement of the townspeople watching the ships in procession, one can only assume that the events here are not to be interpreted as simultaneous. The significance of these multiple events is discussed in Ch. 11, *Genre Scenes*; for the moment it is important simply to note the complexity of time-structure in its ability to shift in this manner. The nature of time is considered more closely in the discussion on narrative in Ch. 12, *The West House Theme*.

Colour

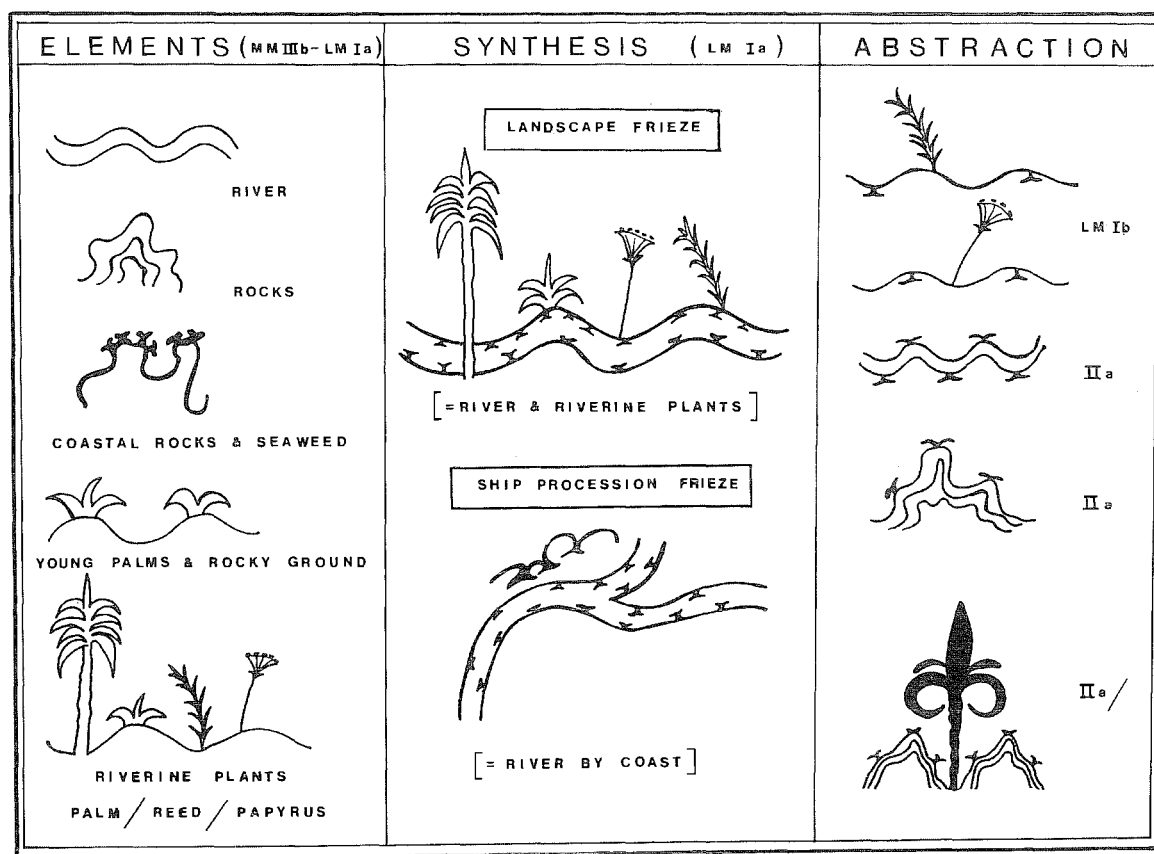
Colour is rarely specific in its significance and is only sometimes realistic. There is good reason for this: only three pigment colours were used by the artists. The white wall plaster was used as a neutral ground onto which the figures and scenes were painted. The three colours are red ochre, yellow ochre, and blue.⁵¹ A blue-black was used mainly for internal details (masonry, leaves) or to define form which is white on white (the skin of women and mantles of men). Mixing of pigments to produce varieties of hue or shade was experimentally used to effect in the land and buildings of the *Departure Town* and the rock-

work of the *Arrival Town* in *The Procession* painting – pink and red, light yellow and yellow ochre – but was not a major concern.⁵² Green – which is easily and effectively created from the mixture of yellow and blue pigment – was used only as a hint of tone change in some of the windows of the *Departure Town*, and was not used where one would expect it, for the foliage of the plants.⁵³

With this limited palette the artists have achieved a remarkable variety of colour composition, and to enable them to do this, realistic intention was sometimes abandoned for harmony of design: the blue-and-ochre plants and animals of *The Landscape* painting, the shifting balance of stripes on the pairs of dolphins, and the layers of coloured walls and beams of the towns. But this principle of interchangeable colour use was rarely allowed to confuse iconographic interpretation. The inflorescence of the date palm is picked out in red ochre for emphasis; the fish are painted in blue and yellow to distinguish between upper and lower body tones; overlapping buildings, rocks, animals are carefully distinguished one from the other by differentiation of colour rather than by the expediency of outline. The actual colours of the dolphin stripes may not be relevant but the division of the body into such layers is. An understanding of the basic principles of colour structure (based in this case on technical necessity) aids iconographic interpretation by concentrating on the ways in which parts of an object are differentiated through the use of colour.

Line and form

This is not the place to delve into that fascinating and difficult branch of modern psychology, visual perception and creativity, which deals largely with what I term the transference of vision and idea into form. It is a field which has much relevance to a study of the histories of art (there is surely more than one), and one which has been brilliantly advanced by E. H. Gombrich in his book *Art and Illusion*. Yet it must be said that we enter into the problems of this transference every time we study the development of a particular motif through our awareness of the ways in which a single painted image or group of images may contain its roots in (a) the visible world, (b) the traditions of art, (c) ideas, whether they be in the form of tangible associations (seaweed = coast / helmet = battle / lion = strength), historical allusions, popular beliefs, cosmology or religion. Invariably each motif simultaneously contains its origins in all three areas. To demonstrate something of the complexities involved in this process I will draw from an analysis of one tiny motif in the paintings: the bifid stalk which is repeated within the inner edges of the rivers . As the analysis is given in detail in Ch. 2 (pp. 35–8), I shall not



repeat the historical development in words but will present it in the form of a diagram which attempts to discover the *process* of transference from vision and idea into motif.

Initially the artists' visual ideas came from (a) the visible world (rivers, sea, rocks, plants); (b) the traditions of idiom in portraying that world; (c) the associations of ideas: river = riverine plant, river = water / water = coast / coast = rock and seaweed. As the motif developed, the visible world became unrecognizable and only (b) and (somewhat surprisingly) (c) remained. The motif of bifid stalk, drawn from the idea of both seaweed and young palm (left-hand column), initially associated sea with vegetation and river with vegetation, so that to find it used simultaneously inside the river and indicating coastal wetness outside (The Procession frieze, centre column) is not surprising. Equally, as the motif is distilled into the pottery forms (right-hand column), the process more or less reverses itself, for it begins inside a river edge (reeds or papyrus grow outside), then shifts to outside the river until gradually the river itself metamorphoses back into rocky ground while the motif remains. At this point the motif appears in juxtaposition with one of the

associative origins – the palm – as if the ideas behind the motif had never been forgotten despite the degree of abstraction to which it had evolved.

We are not here concerned with the historical development itself, but with the process by which the development could take place: the process of multiple associations of form and idea to produce a single motif. The idea of transference – which because it is quintessentially visual is extremely difficult to express in words – is central to the approach to iconography underlying this book.

Having looked at some of the aims and methods of iconography, let us now return to the roots of the word:

icon: (Greek: εἰκών) image, picture.

-graph: (Greek: γραφ-) write, draw, paint; denoting thing written or drawn in such a way.

Iconography, therefore, is used in this book in its most encompassing sense. Iconography: the study of images. Images not in the sense of visual stimuli alone, but as constructed pictures. Images which have become themselves only through the act of becoming pictures, and whose interpretation therefore rests on the fullest possible

understanding not only of the stimuli of vision and idea which the images recall but of the pictorial language in which the images have been written.

Iconography is a vital part of archaeology in the study of a prehistoric culture in which the people 'wrote' the fullest description of their world we could hope to possess in pictures. Iconography is the study of that world through the medium of its images.

Approach to iconography

The preceding definition of iconography establishes that the interpretation of representational art is concerned with both simple and complex meaning: things or elements, and ideas or themes. This is an important division in the present study. The first aspect of interpretation is the detailed study of individual elements and the implications of each element: the weapon and its uses; the plant and its growth; the ship and its manufacture. The second aspect of interpretation is the study of meaning which evolves through the juxtaposition of these elements: a group of armed warriors suggests fighting; a selection of cultivated plants a garden; a flotilla of decorated ships a procession. The overall meaning(s) of a scene is built up in this way: warriors, coastal settlement and ships imply a coastal raid; a procession of decorated ships greeted by the populace suggests a national celebration.

Accordingly, the book is divided into two parts: Iconographic Elements and Themes. The Iconographic Elements are the categories of individual elements: the Plants, Animals, Architecture, Clothing, Armour and Weapons, Ships; and also the general characteristics suggested by these elements: the Location of the Scenes and the Identity of the People. This is by far the longer part, and comparative material is drawn from all the above-mentioned sources. The Themes are the larger meanings arising from the juxtaposition of the elements to form scenes: The Nautical Procession discusses the meaning of The Ship Procession frieze as a whole and its relation to other aspects of the West House paintings; Genre Scenes discusses the Shipwreck and Warriors on the one hand, and The Landscape painting on the other; The West House Theme considers each painting in sequence and then draws together the relationships to show how these form a unifying theme. There is, therefore (in spite of inevitable overlap), a progressive broadening of context throughout the book.

Just as the definition of iconography is variable according to the user, so is the degree of inclusiveness. The concept of the study involves a particular view of what an image *can* yield in terms of meaning, and the degree of inclusiveness depends on how much of this possible meaning is thought to have sufficient *relevance* to be dis-

cussed. We have already seen this in terms of the different approach of the historian (who is concerned primarily with concepts) and the archaeologist (who is concerned also with things), but it should be obvious that even within the field of archaeology there is much divergence on the question of 'relevant' information. For the person concerned with the chronology of pottery the motifs may be relevant in the ways in which they change their internal structure: the progress of stylization of a plant, or the merging of two plants to produce a hybrid. For the environmentalist the image of the same plant will be relevant for its identification with a species of the physical world. For the student of religion the context of the plant will be the relevant factor (is it shown on an altar, or held by a votary, or decorating grave goods?). For others the significance of the plant will be its economic uses as an export product.

But iconography as defined here constitutes interpretation of the image and it is not possible to be objectively exclusive when more than one meaning applies. Often the several meanings will be mutually dependent. For example, the plant, once identified with a particular species through an understanding of the stylization involved, may be found to contain a by-product which was a vital overseas trade item and therefore important enough to be among the votive offerings of the relevant protective deity. If this is the case when dealing with the individual iconographic elements, it applies even more strongly to the study of iconographic themes. Only by analysing all the aspects of the ships in their context – their structure, decorative and functional additions, the hierarchy of mariners, the methods of propulsion, the number of vessels, the distance travelled, the reception in the harbours – can we begin to understand the theme: a nautical procession celebrated by the people.

The aims, then, of this particular iconographic study are twofold: Firstly, inclusiveness in the interpretation of meaning. This is an implausible task, but is, nevertheless, an aim applicable to the discipline of archaeology in which all aspects of a culture and its context are mutually relevant. All elements are considered, even if not all can be explained; all relevant meanings of the elements are discussed (where they are known to the writer); and, when the juxtaposition of elements suggests a broader theme or concept, an attempt is made to elucidate the idea behind the thing. The second aim develops from the first and is necessarily dependent upon it: it is to define the relationships between the paintings on the walls. It is held here that the paintings constitute a unified group with a variety of scenes but with a common underlying theme, and that they were meant to be read as a whole.

It is in this way that I would prefer to describe the stages of iconography: not as divisible levels of increas-

ingly complex meanings, but as a broadening of context moving from the study of the smallest individual image to

the fullest relationship achieved through the juxtaposition of those images.

PART I

ICONOGRAPHIC ELEMENTS

*

THE LAND

2

PLANTS AND THE ENVIRONMENT

PLANTS

Plant life on Thera was radically affected by soil devastation as a result of the major volcanic eruption.¹ Even today, there is little on the bleak island to match the luxuriant landscapes of the wall paintings. If these detailed settings are local, they provide rare source material for what the land looked like in the Bronze Age, for to reconstruct aspects of the land and flora of the Aegean at that time is a difficult task. Pollen and spore analyses have only recently been exploited, so that by no means all site reports include them. Aegean artists depicted particular plants frequently (lily, crocus, ivy), but the common food plants rarely (the only vegetables are vetch (pea) and olive; the only fruit, fig, grape and pomegranate; the only grain, barley). A fuller list of agricultural plants can be drawn up from the Linear B tablets, but there is still little information on their uses or the distribution of species. The miniatures present a panorama of landscape and a small but varied selection of plants. They do not, it is true, provide a representative sample of the plants on Thera. The early excavators reported finding remains of barley (in large quantities, much as the pottery decorations suggest), olive, lentils, chick peas, peas, coriander and anise, and the wood of olive, pine and mastic;² and of these, only pine is to be found in the paintings. Nonetheless, a study of the flora in the miniatures, and its relationship to animals and man, yields valuable information. The botanical picture presented by the paintings is acutely observed. Local environment and horticulture may be depicted: for all the plants could, and some demonstrably did, grow on Thera soil.

Trees

The emphasis on vegetation was reserved by the artists for *The Landscape*, where it is a subject in itself. In the other paintings barren rocky country surrounds the settlements. Trees occur only twice: on the North Wall, within a small enclosure above the Shipwreck scene, and on the South Wall, on the hills above the Departure Town.

This scarcity of trees, even when depicting landscapes, is a characteristic of Aegean art. From Thera, those in the miniature scenes and some from Xesté 3³ are the only examples. A miniature painting from Prasa, near Knossos, depicts a virtual wood of naturalistic cypress trees.⁴ This is exceptional, comparable in its single-mindedness to the paintings of lilies and crocuses from Thera, Knossos and Amnisos, but outstanding in that the theme is of a tree-rather than a flower-species. The depiction of trees in a natural setting is otherwise rare: the Siege Rhyton, the Vapheio Cup, and the Knossos miniature fresco of the Sacred Grove are a few examples. The latter two clearly depict olive trees, but the form of most is heavily stylized.⁵

The Thera trees, too, are generalized but with sufficient individuality for an attempt at identification. Marinatos referred to the Departure scene as 'the typical Mediterranean wooded landscape, where oak and umbrella-pine prevail'.⁶ The latter identification is certainly acceptable.

It is usually thought that Greece was considerably richer in forests during the Bronze Age than it is today, deforestation by the lumber industry having begun in the second millennium and intensified during the first,⁷ though recently this view has been challenged for mainland Greece.⁸ From the few analyses of wood remains

from archaeological sites, Crete is known to have had – besides fig and olive – spruce, pine, oak and cypress during Minoan times.⁹ On Thera, pine, mastic, olive and probably oak existed on the island before the eruption.¹⁰

Pine

That the Departure Area of the South Wall painting shows a forest of pine trees (Pl. 14) is consistent with the general characteristics of the landscape: a hilly peninsula near the sea, for this is the environment in which concentrated pine forests are to be found.¹¹

The aleppo (*Pinus halepensis*) and the stone or umbrella pine (*Pinus pinea*) are the common varieties of pine in southern Greece and the islands. However, it is a complex matter to determine where a species is indigenous and where it has been planted by earlier inhabitants, and disagreement surrounds the issue of which species existed in Greece during the Bronze Age.¹²

In the painting, the flat-topped crowns and the divisions of the branches high on the trunk of the trees appear to represent the stone or umbrella pine (Pl. 15). This grows well in alluvial soil and in river valleys by the sea – such as the land immediately below the trees in the painting – and although in Greece it is now largely restricted to the Aegean islands and the western Peloponnese it is thought to have been more widespread in earlier times. The mature tree grows to a height of 15–30 m. The compact crowns of the smaller trees in the painting are characteristic of the younger mature specimens. The old frequently spread their branches wide, forming an irregular appearance of several heads. The single large tree between the deer, while it is tall partly because of the painter's spatial organization, may represent such a mature specimen.

The forest would be a good source of timber for the townsfolk; pine timber, while it is mostly used for carpentry and furniture today, was used in shipbuilding and the construction of buildings in Classical times.¹³ Other economic resources recorded later and likely to have been known in the Bronze Age are pitch and tar from the trunk, and the protein-rich kernels from the cones.¹⁴

Fig

On the high land of the Pastoral Scene is an animal fold with two trees (Pl. 16). The trees have a short, thick and irregular trunk, a mass of large leaves and round dark fruits (painted black to distinguish them from the red ochre leaves and branches). Almost certainly these depict the common fig tree, *Ficus carica*. The fig is a large shrub

or small deciduous tree growing to a height of 2–5 m, with heavy branches, large leaves with three or five lobes and sweet pear-shaped fruit (Pl. 17). It is a circum-Mediterranean plant, with obscure origins, but much cultivated in southern Europe. The trees in the painting are likely to be cultivated, rather than wild, for the latter grow as a low shrub over rocks while the cultivated plant forms a small tree. In Greece the tree grows best on stony ground, frequently near water but on well-drained hill-slopes. Often, it is planted where its foliage can provide shade, by a well or in the courtyard of a house. In the painting, the trees would have provided welcome shade for the returning animal flocks as well as for the women collecting water from the adjacent well.

The cultivated fig tree produces two kinds of fruit; one, larger and of superior quality, in early summer (June–July) from the figlets of the previous year, and the other in the autumn (August–November). The earliest fruit-buds emerge before the leaves (buds in February, leaves in April/May). When the leaves are fully out the fruit should be ripe. The large fruits and the full leaves on the trees in the painting suggest that the scene takes place in early summer.

Only one other certain representation of the fig in Aegean art is known, on a fragment of a serpentine vessel from Knossos (Pl. 18); within the conventional circular outlining of leaf-areas the individual three-lobed leaves can be seen. Here, too, the tree is shown growing within a built enclosure.¹⁵

In contrast to the scarcity of visual evidence for the plant, several references occur in the Linear B tablets, and the fig-tree ideogram is common also to the Linear A script.¹⁶ The sign occurs as one of the four agricultural staples: wheat (sometimes barley), oil, olives, figs;¹⁷ and in a Pylos tablet it occurs with goats, ox, rams and ewes¹⁸ (as shade for the flocks or part of the animals' diet?). A few Knossos tablets list orchards of fig and olive trees, and large quantities of fig trees were recorded at Pylos.¹⁹ The ubiquitous role of the fruit is shown by the fact that it was used equally as tribute and ritual offerings and in the diet rations of slave-women.²⁰

Figs are relatively rarely found in archaeological contexts, yet they have been recorded at some Greek sites.²¹ At Akrotiri, Marinatos reported finding a piece of dried fruit, fig or wild pear, but as it was found in a layer of volcanic ash it could not be dated.²² The tree grows on the island today and can be seen near the site.

The fig was an important source of food throughout the ancient world, and has also been widely used medicinally.²³ The display of fruits on the trees in the painting suggests that they were favoured by the Therans, as was the shade-giving foliage.

Sedges, aquatic grasses and reeds

Sedge

Plants of the sedge family, *Cyperaceae*, are usually herbaceous perennials, often with rhizomes, and grow in moist or watery places. The flowers are clusters of spikelets, which may be solitary or grouped and branched. Most sedges are small (approximately 10–80 cm), only *Cyperus longus* grows to the greater height of about 1 m.

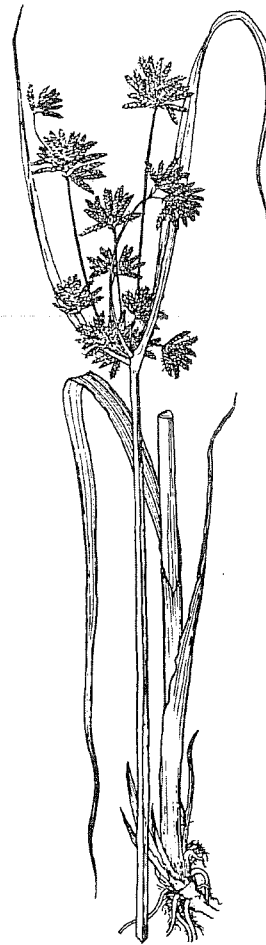
Other than papyrus, two closely related varieties of sedge are represented in The Landscape painting: (1) two plants at the extreme left of the frieze below the river, one between the flying bird and the adult palm trees (Col. pl. B), and one (fragmentary) by the bird's head (Pl. 91); (2) the plant immediately behind the griffin (Pl. 60) and two towards the end of the frieze, above the river, on either side of a young palm (Pl. 27). The long stems are leafless and branched. Each head comprises three to five spikelets. The first type is differentiated by shorter stems, smaller heads and perhaps more numerous spikelets. It is, however, poorly preserved and the base of the main plant is reconstructed.

These plants are iconographically unusual and it is therefore surprising to find that they are so stylized. In general, extreme stylization of a plant occurs only when it is a common motif, usually applied to pottery. The rarer depiction of individual plants is more likely to be drawn from observation. No certain botanical identification can be made, but a likely suggestion is the common edible cyperus, *Cyperus esculentus* or (more probably in terms of size) its near relation *Cyperus longus* (Fig. 7). This plant has dense clusters of three to eight spikelets at the ends of long branches. It grows in marshes and by watersides throughout most of Europe, flowering in summer.

C. esculentus has been suggested as the plant represented in the Egyptian hieroglyph , the symbol for Upper Egypt²⁴ and a variant of , often identified as a flowering rush (*Juncus*). The abbreviation of the spikelets as a single brush-stroke in both hieroglyph and painting makes differentiation between sedge and rush tentative, but in the painting the environmental association of the river is appropriate to the former. The Landscape incorporates both of the heraldic plants of Egypt – papyrus of Lower Egypt and sedge or flowering rush of Upper Egypt – surely fortuitously, though in harmony with the Egyptian inspiration behind the theme of feline chasing waterfowl here transformed into an Aegean format.

Despite this hint of iconographic inspiration, it must be emphasized that the painter would have been familiar with varieties of sedge on Thera. Pliny mentions Thera *Cyperos* (meaning sweet rush);²⁵ *C. rotundus* was

recorded by von Heldreich amongst the island's flora;²⁶ and many other varieties can be found growing in Greece today. Even so, the plant is rarely, if ever, represented elsewhere in Aegean art. A possible example may be an MM IIIb fresco fragment from the S.-E. House at Knossos which Evans interpreted as 'spikelets of reeds or grasses, round one of which is coiled the tail of what appears to be a small harvest mouse'.²⁷ (The rhizomes and foliage of sedges provide nourishment for such small animals as well as for birds.) It is also possible that the three-pronged plant represented by the Minoan pictograph no. 92 [] should be understood as a sedge similar to that of the painting rather than as silphium as Evans suggested.²⁸ A very similar plant is occasionally represented on pottery.²⁹ Evans initially referred to 'sedge-like plants with red flowers' in the landscape of the Throne Room at Knossos,³⁰ but unfortunately neither these nor the palms which he mentioned appear in the reconstruction.



7. Sedge, *Cyperus longus*.

Aquatic grasses

Reeds and grasses belong to the same family (*Gramineae*) but may be distinguished by the following general, though not invariable, rule: reeds comprise tall strong stems with leaves springing alternately or opposite one another from the base to the top of each stem; grasses grow in clumps of single leaves or blades, all of which rise from the ground.

In Aegean art, the former are commonly represented. Thera also has several examples of the latter in its paintings. A fragment of grasses was found in Area B.³¹ In the miniatures, the environment of all three settlements includes grasses. In the Pastoral Settlement they grow to the left of the built well and animal enclosure (Pl. 16). Around both the Departure and Arrival Towns abundant grasses grow close to the water's edge: outside the town walls of the Arrival Harbour (Pls. 13, 138); and surrounding the Departure Town, marking the edge of the coast and continuing alongside the inner bank of the winding delta (Pls. 8, 103). Judging from the relative scale of the figures, these aquatic grasses grow in clumps of tall leaves reaching from knee to waist height.

It is not possible to identify a species, for many varieties of aquatic grasses grow along the coasts of the Mediterranean. Eelgrass (*Zostera*), for example, grows in shallow shore-water and estuaries to almost a metre, and lyme grass (*Elymus arenarius*), shown in Pl. 19 growing in its usual habitat on coastal sands, forms clumps of 60 cm to 2 m tall. These are soil-, sand- and mud-binding grasses, whose creeping rhizomes (underground stems) consolidate drifting sand.³²

This important control of damp coastal ground has been well shown in the painting: the narrow belt of land between the Departure Town and the sea consists entirely of aquatic grasses and is firm enough for the men to stand on it and for the town to be built nearby. Here the grasses have consolidated the alluvial deposits from the delta.

Reeds

Reeds appear in The Landscape growing along the lower bank of the river. Three stems grow at an acute angle on the extreme right of the painting (Pl. 21); these are painted in red ochre. The contrasting colour of this painting – blue – is used for two (surviving) stems to the left. These are sparse examples amongst the rich riverine flora. In contrast, amongst the paintings from Xesté 3 reeds form a marshy thicket in which the density of the plants is indicated by the overlapping of leaves. According to Marinatos,³³ the latter belong to a scene with flying ducks, some caught in a net (a theme common in Egyptian paintings).

The plants are likely to represent either the giant reed,

Arundo donax, or the common reed, *Phragmites communis* (Pl. 20),³⁴ both of wide distribution. These are bamboo-like plants with robust leafy stems, and broad, two-ranked lanceolate leaves. The common reed covers large areas along rivers, lakes and marshes, growing to a height of 1.50–3 m (leaves 15–30 cm). The giant reed grows in dense groves in damp places, especially along watersides, to a height of 1.50–5 m (leaves 0.30–1 m). Both have a feathery inflorescence in late summer (Pl. 20).

Two aspects of The Landscape reeds are botanically inaccurate: they are shown growing at an oblique angle from the ground rather than directly upright; and the leaves grow opposite one another up the stem rather than alternately. The first point is an idiosyncrasy of this particular painting; the intense feeling of movement is achieved in part by winding river and in part by the varied directions of the plants. The second point is one that is common to many Aegean paintings that depict reeds as well as to some pottery examples.³⁵ In contrast, many examples of reeds on LM I pottery (including some from Thera) conform to nature by placing the leaves alternately along the stem.³⁶

The reed motif on pottery may be traced back to the Middle Minoan period,³⁷ but is most common during LM I. Towards the end of LM Ia and throughout LM Ib stem and leaf narrow.³⁸ LM Ib reeds may cover the pot surface so densely that these narrow leaves overlap, the plants rising from an undulating band (Pls. 23, 48; cf. p. 37). The immediate predecessors to this type rise from a straight band along the belly or base of the pot and are arranged in single rows rather than overlapping (Pl. 22). This LM Ia ceramic type is the one most closely paralleled by the examples in The Landscape frieze.

Reeds in Aegean art are mostly depicted without inflorescence (an exception being those from the House of the Frescoes, Fig. 22). In The Landscape, the adult palm, papyrus and sedges all have a flower-head, but the reeds have only leaves. In terms of season, the plants must therefore be shown prior to late summer.

There are many constructive uses for reeds and there is evidence for a variety of these throughout the ancient world. In the Aegean Bronze Age, archaeological evidence for grass species is slight, though both common and giant reed grow there today.³⁹ At Akrotiri, Marinatos reported finding traces of what had been a 'wickerwork shelf, or a shelf made of reeds' in Δ 2 (the room of the Spring Fresco) and 'broader rods (8–10 cm diameter)' had supported this shelf.⁴⁰ Prints of reeds were also found in the partition room B 1b.⁴¹ Reed stems can be a substitute for timber and were used as supports for clay roofs in Minoan buildings.⁴² The dried stems and leaves were used in ancient (as modern) Egypt for thatch-

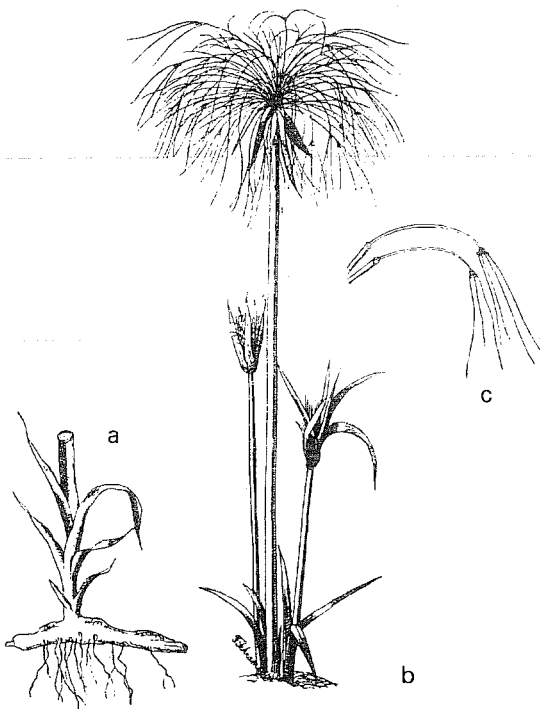
ing, shelters, fences, mats and basketry.⁴³ An impression of a rush basket was reported from Akrotiri.⁴⁴ Other products from the plant include pens for writing on parchment or skins, fishing rods, walking-sticks and musical pipes.⁴⁵ There is no reason to suppose that reeds were not equally useful to the people of Akrotiri. Within the miniature paintings, the sticks held by the North Wall shepherds and South Wall fishermen, and the awning supports and long prow attachments on the ships suggest some possible uses.

Papyrus

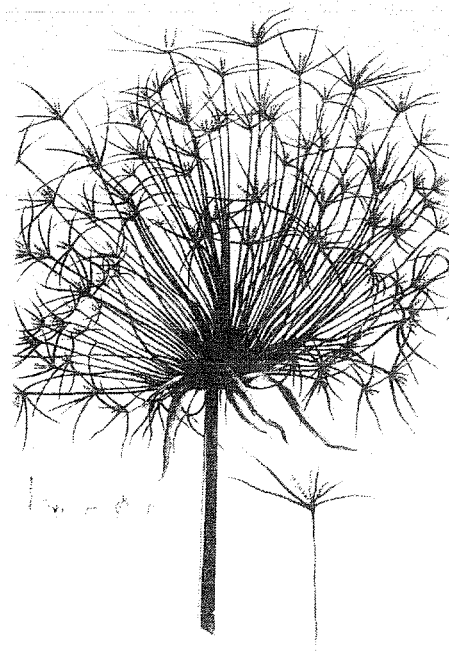
Most people familiar with Aegean iconography would recognize Pl. 24 as papyrus. Yet it looks very little like the actual plant. This anomaly is best explained through an observation of the natural growth process of the plant in comparison with the development of the artistic convention. I am inclined to agree with Warren's affirmative to the question 'Did papyrus grow in the Aegean?'⁴⁶ and I think now we must ask a further question of why this was so. I suspect that here we have not so much a common as a garden plant.

Cyperus papyrus, the paper reed, is a variety of large sedge (Figs. 8 and 9). Its natural habitat covers north-east Africa, parts of western Asia and small areas of southern Europe; but the wild plant is now somewhat rare.⁴⁷ It grows in dense clusters in wet places, usually by rivers or in swamps. At the base of the plant 5–8 leaves surround the otherwise leafless stem (Fig. 8a), which grows to a height of 3–5 m. At the top of the stem, 4–8 bracts surround the base of what looks like an umbel. This 'umbel' is composed of over a hundred narrow leaves. As the plant matures, each leaf divides at the top into three or four short shoots. From the axil of these shoots small spikelets grow, each being a two-sided cluster of tiny florets. Up to and including this stage the 'umbel' remains erect in a close fan-shaped head (Fig. 9). In the next stage of growth, the shoots surrounding the florets extend into leaves, or 'umbel rays', some 30 cm long (Fig. 8c); these are so thin that they cannot stay upright, so that each double-serried leaf, with its cluster of florets between, droops downward (Fig. 8b).

In The Landscape at least three papyrus plants survive. They appear to grow singly (which would be botanically inaccurate) but this reflects preservation. The cat bounds



8. Papyrus, *Cyperus papyrus*: (a) underground rhizomes and base of stem with leaf sheath; (b) the mature plant (centre) and half-grown plants (left and right) with bracts at the base; (c) leaves with florets and terminal shoots at leaf stage.



9. Papyrus, *Cyperus papyrus*, at immature stage of growth.

past two, possibly three, papyri. Two grow side by side (Pl. 24), only the one on the left being well preserved. By the hind legs of the cat, two leafy stems may belong to a third, Pl. 51 (compare the two leaves behind the cat's neck), although the reconstruction does not suggest this. Further right in the frieze, the top fragment of a papyrus is preserved in Pl. 27 (top left).

Other than *The Landscape*, papyrus occurs in three other paintings on Thera,⁴⁸ though not to my knowledge on the local pottery. Stylized plants crown the Cabins of the panels from Room 4 of the West House; these are an adaptation of the 'waz' papyrus (see below). In the House of the Ladies, three enormous groups of papyri shared the walls with the women (Pl. 26).⁴⁹ Warren's identification of these as papyrus rather than *Pancratium maritimum* (*pace* Marinatos)⁵⁰ is surely correct. In maintaining a consistent terminology, the plant is closely similar to the papyrus of *The Landscape* and to that of Pl. 25, a fragment from A 1, showing a monkey at a hill-top shrine standing before a column crowned with papyrus-heads.⁵¹

The Theran examples (excepting the 'waz' of the Cabins) have several factors in common. In those that are growing (*The Landscape* and *The House of the Ladies*), two exaggeratedly long leaves rise from the ground beside the stem, in contrast to the natural plant where the leaves form a sheath around the base of the stem (Fig. 8a). The stems are accurately rendered as sturdy and tall. At the top of the stems are the bracts, as in the real plant, but in the House of the Ladies an additional calyx tube has been added in yellow beneath the bracts. This is a common iconographic error: papyrus has no calyx. Colours agree in concept if not in detail: the 'umbel' is painted blue (= green), suggesting the green leaves. Two bracts droop on either side of the 'umbel' (accurately), and a third line or bract stretches rigidly upwards dividing the head in two. In *The Landscape*, two more lines rise from the intervening spaces (Pl. 24). In the House of the Ladies, the 'umbel' is divided by five internal lines which correspond to a scalloped edge at the top (Pl. 26). Both central and multiple lines are common in Aegean representations (Pl. 47; Figs. 22, 24, 46, 48) and their derivation from the mass of narrow leaves of the plant-head is easy to see. Resting along the top edge of the 'umbel' is a row of dots. In *The Landscape* they are poorly preserved but appear round and irregular. In the Plants from A 1 and the House of the Ladies they are kidney-shaped, seven per head. This too is a common iconographic feature, but one which is hard to explain in terms of the actual plant. They look exactly like anthers, but papyrus has no stamens.

The dots correspond to a similar edge along the tops of Egyptian depictions of papyrus (Pls. 187–8). An ingenious explanation of this feature is that the dots represent the ultimate flower-heads of the spikelets. When the

plant is young, before the growth of the terminal leaves, these spikelets are indeed the uppermost section of the plant. At this stage the plant retains its upright fan-like structure (Fig. 9). It is only after the shoots around the spikelets have grown into leaves that the fan droops in the manner characteristic of the mature plant (Fig. 8b). As the stems are at their best in the young plant, the Egyptians harvested papyrus before the head was fully grown.⁵² Möbius concluded that the artists would have seen the papyrus with fan-shaped head and terminal flower-heads rather than in its mature state; thus a convention arose which became a stereotype in both Egypt and the Aegean.

Aegean artists used papyrus within relatively restricted contexts, most commonly during MM III–LM II, with, on the whole, examples on Cretan paintings pre-dating those on pottery. The plant occurs in a number of guises in the House of the Frescoes (Fig. 22); in the Ayia Triada deer fragment (Pl. 183); incongruously replacing stigmas in a crocus fragment, once erroneously incorporated into the Saffron Gatherer;⁵³ and in a recently published fragment from Phaistos.⁵⁴ It is not as common as either crocus or lily. The relative scarcity of papyrus in Mycenaean paintings may reflect chance preservation. At Thebes the entrance to a chamber tomb was decorated with papyrus flowers, spirals and female figures,⁵⁵ recalling the relationship of the paintings from the House of the Ladies. Lang identifies one of the Pylos fresco fragments as a deer and papyrus;⁵⁶ if accurately identified, the plant-animal association parallels both *The Landscape* and the Ayia Triada painting. A fragment from the Older Palace at Tiryns⁵⁷ reflects a familiar association of bird and papyrus (below, p. 65).

In its early development, in MM IIIb–LM Ia, papyrus takes several hybrid forms. From the House of Frescoes there are at least six variations, including several with leafy stems. Closest to the Theran examples are those clasped by the monkey in Fig. 22 (smooth stem, two bracts, an added calyx, a blue fan-shaped head divided by internal lines and crowned by a yellow strip with a row of dots on either edge).⁵⁸ At Ayia Triada, the papyrus is akin to the leafy variety of Knossos (Pl. 183, upper right); while the reed-papyrus combination was perpetuated in the Throne Room at Knossos.⁵⁹

The examples closest to the Theran Landscape papyrus belong to scenes which, as well as being contemporary in date with the painting, share affinities in theme: the Cat and Bird inlaid dagger from Shaft Grave V at Mycenae (Fig. 24); a fragment of a large clay vessel painted with waterfowl and papyrus, from Phylakopi (Fig. 48); a seal-stone from Knossos with the same theme (Fig. 46). This is a relatively naturalistic type which shortly afterwards transmogrifies into schematization. The accurately

shown bracts only occur in the earlier stage; while the calyx tube (which first occurs simultaneously with bracts, in the House of the Ladies) develops into a single or double globe on LM Ib/LH IIa pottery. At this time horizontal lines are added to or replace the vertical lines (Pl. 47), while the upper row of dots is transformed into rays, strikingly like the scalloped edge of the earlier plants from the House of the Ladies (Pl. 26).⁶⁰

Aegean artists added features to the papyrus familiar from their native flowers. Thus the leafy stem and anther-like dots reflect the lily. This form of hybridization accounts for the common confusion between papyrus and *pancratium* lilies. The plant which Evans first identified as *pancratium*⁶¹ is directly comparable to the Minoan papyrus but with the fan cut away to reveal rows of filaments supporting the upper anthers. The filaments correspond to the internal lines, the anthers to the dots, and the three bracts are identical in both cases.⁶²

Hybridization is also a feature of the 'waz' emblem which decorates the tops of the Stern Cabins of Room 4 and the cabin of the flagship in The Ship Procession (Fig. 97; Pls. 178–9 and 174). Rutkowski views the triple 'waz' emblems on the cabins as sacred,⁶³ an assumption which receives support from the A 1 fragment in which the triple-headed papyrus column is revered by a monkey (Pl. 25). There are two types on the cabins: the simpler is the more common; the other, with in- and out-curving 'petals' (Fig. 97), may have its source in a faience pendant from the Temple Repositories (Fig. 10).⁶⁴ Evans saw this as a combination papyrus–lily, but he recognized the origins of the motif in the Egyptian 'waz' papyrus convention.⁶⁵ The motif first occurs in the Aegean on MM I sealstones and is followed by examples on MM II pottery;⁶⁶ its introduction into the Aegean therefore predates that of the recognizable naturalistic papyrus.

A commonly held assumption that the Aegean papyrus motifs developed from Egyptian prototypes may now be tested. The Egyptian conventions of smooth stem, fan-shaped head (either plain or with internal dividing lines indicative of the leaves),⁶⁷ a strip in contrasting colour along the top, and either the accurate depiction of three

bracts (Pl. 187) or the artificial depiction of a calyx tube (Pl. 188)⁶⁸ all occur in the Aegean motif (the strip occurs in the House of the Frescoes and the Phaistos fragment, though not at Thera). But one feature is added in the Aegean: the row(s) of dots above the head (possibly a local interpretation of the two-sided clusters of florets though ultimately schematized into kidney-shaped dots resembling anthers).⁶⁹ Association and scale are also relevant. The Ayia Triada plant is incorporated into a Cretan environment, reduced in scale to a rock plant and lacks a watery environment (Pl. 183). Significantly, the variety of papyrus from the House of the Frescoes which is most naturalistic is also the one whose scale is accurate and which grows along the banks of a stream: there the plant is understood. So, too, at Thera and in other examples of the period (Figs. 46, 48; Pl. 185) the context of reeds, river and waterfowl indicates the natural aquatic habitat of the plant.

The following scenario is postulated: Aegean artists first became aware of papyrus through the artistic convention of the Egyptian 'waz' motif (MM I–II), perhaps combined with travellers' views of the Nile; later the plant was cultivated on Crete but sufficiently rarely to cause iconographic confusion in both form and habitat (MM III–LM I); finally, familiarity with the plant enabled it to be assimilated into an iconographic repertoire of accurately observed environmental associations (LM I).

Papyrus was cultivated along the Nile delta for the manufacture of numerous products, notably paper from the inner pith of the stems; but also rope and hawsers from the dried outer stems; small river boats or skiffs; boxes, mats, sandals; fuel; a honey-substitute extracted from the root and stem; and adornment for temples, statues and high-ranking people from the inflorescence.⁷⁰ Most of these uses were enumerated and understood by later Greek writers.⁷¹ Theophrastus and Pliny also mention sails, cloth and blankets made from the pith.

There is no way today of being certain which of the manufacturing processes were used in the Aegean during the Bronze Age. It has been suggested that impressions of fine binding-string on Minoan clay sealings may be evidence for cords which fastened papyrus documents;⁷² and indeed the Aegean scripts lack the angularity of writing evolved primarily for use on clay, implying instead a soft material such as hide or papyrus. Small boats in the Aegean may occasionally have been made from papyrus (or reeds). The prow of the boat on the Mochlos ring (Fig. 85) recalls the tied ends of Egyptian papyrus skiffs (Pl. 187) and the papyrus-head emblems of river craft (Pl. 188). However, the Mochlos boat is likely to have been a cult vessel.

Any of the uses (except the decorative use of the



10. Faience pendant of triple papyrus-heads from the Temple Repositories, Knossos, MM III.

inflorescence) involve processing the *harvested* plant. Therefore even if proof for papyrus manufacture were forthcoming, evidence for the *growth* of the plant in the Aegean would still be dependent on iconographic representations. It is true that the context in which papyrus most frequently occurs in the Aegean – in the genre scene of cat chasing waterfowl – is also the one in which it most often occurs in Egypt (Pls. 187–8, upper right; cf. Ch. 11, pp. 146–50). But while Aegean elements may be added to the genre, only four are subtracted from the original Egyptian idea: papyrus, river, cat and waterfowl. The lotus, the varieties of Nile fish and southern birds, and of course the nobleman on his boat, are all missing. And they are missing for the very good reason that they do not belong in the Aegean; papyrus presumably did.

Papyrus is not indigenous to Greece, but when imported north from its natural habitat it grows well. The iconographic depiction of small groups of the plant rather than of dense clumps may be an indication that it was not cultivated on a large scale for the manufacture of products (for which the importation of harvested stems would be adequate). In modern times in Europe papyrus is occasionally planted for ornamental purposes in parks and gardens.⁷³ The Bronze Age Thera and their Aegean neighbours may well have imported papyrus for the same purpose. Its role in *The Landscape* would then suggest the luxurious reality of a garden on the one hand (see pp. 39–40) and the evocation of a genre scene on the other (Ch. 11, pp. 146–50).

In iconographic terms, there can be little doubt that papyrus was the setting for a certain type of scene within the Aegean. It occurs (as it should) by rivers (Fig. 22; Pl. 47), with waterfowl (Fig. 46; Pl. 185) and their predator the cat (Pl. 185), with deer (Pl. 183; cf. n. 56) and, less explicably, with griffins⁷⁴ and with monkeys (Pl. 25; Fig. 22). *The Landscape* incorporates all but the last. A mythic or cultic association for the plant is intimated in the Thera scene of the monkey worshipping at a hill-top shrine (Pl. 25) and in the scenes with griffins (n. 74) while further evidence for the symbolic value of the plant is suggested by the House of the Ladies at Thera, and by the recently discovered Fresco of the Garlands from Knossos.⁷⁵ Otherwise, it is a natural setting for riverine life, and one which is rarely absent from the genre scene represented in *The Landscape* frieze.

Palm

Palm trees are rarely represented in Aegean wall paintings. They occur in isolated fragments from Knossos and Pylos; associated with a daemon and a female warrior with griffin (Pl. 157) from the Cult Centre at Mycenae; with boar-hunting and competitive games (?) in a frag-

ment from Orchomenos;⁷⁶ and, significantly in terms of the Thera Landscape, with griffins, reeds, 'sedge-like plants' (above, p. 19) and a river (?) in the Throne Room at Knossos.⁷⁷ While there are many depictions in paintings and reliefs from Egypt and the Near East, the Aegean has yielded relatively few representations, mainly on pottery and sealstones. Yet at Thera we have an entire frieze (in its existing state) of a scene dominated by the naturalistic depiction of palm trees growing alongside a river (Col. pl. B; Pls. 4, 6, 27–9). Neither is *The Landscape* frieze the only example of palm trees from Akrotiri. Pl. 32 shows a fragment of a wall painting from A 1, with a man concentrating his attention on a palm tree with inflorescence.⁷⁸ Palm trees also occur twice on locally-produced pottery (Fig. 13) and once on a carved stone vessel.⁷⁹ This is an exceptionally large number for an Aegean site. Despite the recurrence of the theme of feline chasing waterfowl along a river (see Ch. 11), there are no Aegean parallels for the incorporation of palm trees within the scene.

It is clear that the mural palm trees are well observed and not dependent merely on schematic formulae. The artist was conversant not only with a particular species of palm but with its stages of growth and cultivation. The species represented is the date palm, *Phoenix*, as evidenced by the single trunk and head and the pinnate leaves.⁸⁰ Until recently it was assumed that all Minoan representations of the palm are identifiable as *Phoenix dactylifera* (Pl. 30), the edible date.⁸¹ Then non-cultivated date palms growing today in parts of Crete (notably at Vai) were recognized by the botanist Greuter to be endemic and were separately named *Phoenix theophrasti*.⁸² It has been suggested that it was this endemic palm that the Minoans depicted.⁸³ There is, however, a problem in extending the identification to the Thera painting. Greuter states that the known distribution of the tree is limited to Crete with no evidence for its existence at any time on the other islands. Further, the origins of the tree are obscure, there being doubt both as to its relationship to *Ph. dactylifera*, and to the length of time it has been endemic to Crete.⁸⁴ More crucially, there is a problem of identification. Visually there is no noticeable difference between *Ph. theophrasti* and *Ph. dactylifera* when both are growing in the same climatic zone. Thus the question of sub-species is insoluble on the basis of Thera iconography.

The narrow trunk of the full-grown date palm grows to an approximate height of 20 m; but, as in other categories, our plants give little indication of true or comparative scale. The trunk is usually straight. Marinatos suggested that the palms are shown blowing in the wind,⁸⁵ but since the various plants are veering both to the left and to the right simultaneously this explanation is

unlikely. The bending of the plants seems rather to enrich the scene with a lively sense of movement reiterated in the undulating river.

There are usually between 20 and 40 leaves, inevitably more than the artist was prepared to show. Each leaf grows to about 6 m in length, the upper, younger ones rising and the lower, older ones curving downwards. On the midrib of each leaf are a number of leaflets. These fold upward from the midrib and those at the centre of each leaf are longer than those at the base and ends. Both details have been observed by the painter.

Date palms have either male inflorescence (flowers) or female (fruit); the two do not co-exist on the same tree. Only one of the mature palms in The Landscape frieze has an inflorescence (on the left), almost certainly female. The inflorescence of the A 1 fragment is better preserved. Here the red dates show clearly against a yellow background, probably indicative of the branches which bear the fruit. These long-hanging branches growing from the base of the leaf stem are, however, generally dragged down by the weight of the fruit (a point clearly shown on Egyptian and Assyrian monuments)⁸⁶ rather than snuggling neatly at the centre of the leaves as here. It seems that the fruit is not yet ripe and heavy (see below).

There are a total of nineteen palm plants depicted in The Landscape frieze. Ten have pinnate leaves and a segmented trunk;⁸⁷ two have a segmented trunk but smooth leaves (an artist's hybrid), and seven have smooth leaves and no trunk. Of the first twelve, identifiable as the same species, only two are recognizable as the *adult* date palm (Pl. 28), the others having a shorter, squatter appearance, more like a shrub than a tree (Pl. 29). Yet they are the same plant, brilliantly represented in cultivation at different stages of growth.⁸⁸

A description of the growth process should clarify this point. The structure of the palm is different from that of other trees. It grows not by the addition of a new ring or annual layer of growth, but from a single point – the terminal bud – from inside the trunk; new cells are deposited within the outer core of the trunk, causing it to expand. As the trunk grows the older leaves, those on the outside curving downwards, drop off leaving behind the leaf-bases which cover the trunk in a characteristic jagged pattern. In later years the full-grown trunk is left with the scars of the leaf-bases, which form a smoother but equally distinguishable geometric pattern. Pl. 30 shows the jagged leaf-bases with the smoother scars emerging from beneath. In ancient art the trunk appears to be shown either with the leaf-bases still on, or with the smooth geometric pattern of the leaf-scars; the former are most likely represented when we see pointed segments, the latter by a flatter criss-cross pattern. Clearly the painting shows both stages: the tall adult trees are

shown with a smoother narrow trunk, i.e. with the leaf-scars; and the short young plants have a relatively fatter trunk quite clearly shown with relief points of the leaf-bases. Those with the shortest trunk are the youngest, each leaf-base representing the falling-off process of a dead leaf as the plant grows upward.

The date palm propagates by suckering, i.e. it grows several offshoots near the base of the trunk (bottom left in Pl. 30). Cultivation of the plant therefore involves separating these offshoots from the parent and transplanting them. In Egypt and the Near East date cultivation involved the process both of transplanting the suckers and of manual pollination, usually from a single male plant kept in the grove for that purpose.⁸⁹ Palms are comparatively easy to transplant; they do, however, need careful attention during cultivation. The Landscape painting shows the transplanted young all along the river banks and such attention has obviously been observed. Suckers begin to grow when the palm is still quite young (6–16 years); full maturity is reached after thirty years and lasts for up to a hundred (flowers growing after five, fruit from fifteen); decline then proceeds for a further hundred years. The painting shows mostly very young plants indicative of a comparatively new palm-grove. The adult palm without inflorescence (on the right in Pl. 28) is perhaps the male; while the other is presumably the female whose suckers (which would also be female) have been transplanted.

The inflorescence is seasonal, blooming from February with ripe fruit from July to October. The florescent tree in The Landscape is too fragmentary to show whether it bore fruit, but the A 1 specimen certainly did. This leads us to the important and difficult questions of where the scenes are intended to be set geographically, and whether the plants shown are likely to have been indigenous or imported. For it is a well-known fact that while the date palm can and does grow as far north as Greece, the climate is not consistently hot enough for the fruit to ripen sufficiently for human consumption; this climate is not likely to have changed significantly since the Bronze Age.⁹⁰ Crete lies at 35° and Thera between 36° and 37° N,⁹¹ which is outside the accepted fruiting zone, but sufficiently close climatically to allow the fruit to part-ripen.

The crucial factor is whether the paintings show the fruits totally ripe – in which case the plants must be geographically outside the Aegean – or ripe only within acceptable Aegean limits. It was noted above that the positioning of the dates in the centre of the leaves is indicative of half-ripe fruit. This placing of the inflorescence in the centre of the leaves is not unique to the artists of Thera. Evans first perceived the fact with relation to Minoan–Mycenaean depictions of the

plant;⁹² it is an iconographic rule common to all examples which show the inflorescence (Fig. 36; Pl. 31). The Landscape frieze, demonstrating as it does such a uniquely detailed understanding of the plant, confirms that this is not simply an inaccurately repeated formula but is a description of the specific stage of growth reached by the dates in the Aegean climate. The trees of the painting must have grown near home.

It may be that the recent evidence of an endemic species on Crete indicates that the date palm was indigenous to the Aegean. But climatically this is improbable. On balance, it seems more likely that the plant was imported to the Aegean during the Bronze Age. Cultivation of the plant led to considerable extension of its geographic distribution beyond its native lands of North Africa and the Near East. The idea of importing live trees, even across water, should not surprise us: evidence from Egypt demonstrates the practice. In the 11th dynasty an expedition to Punt brought back to Egypt flora which included date palms;⁹³ in the early 18th dynasty, Hatshepsut imported potted frankincense trees by ship to Egypt from Punt, and Tuthmosis III created exotic gardens with foreign plants and trees collected during his campaign.⁹⁴ In Mesopotamia, too, parks and gardens were constructed and in the Late Assyrian period Aššurnasirpal II listed date palms among trees collected during campaigns for such a garden, even though they would not have borne edible fruit in the climate of northern Iraq.⁹⁵ A Minoan seal in the British Museum depicts a palm tree on a ship (Pl. 33) as though suggesting transport of the plant. Normally, however, one would expect the suckers to be transported, not the full-grown tree.

Legend suggests a relatively late origin for the palm on Crete.⁹⁶ Yet an item in the Knossos tablets may indicate a palm product, and has been transliterated as the Greek *phoinikion*.⁹⁷ This means that not only the palm but also the word which was later used for the people of the 'Land of Palms' – Phoenicia – extends back into the Bronze Age.

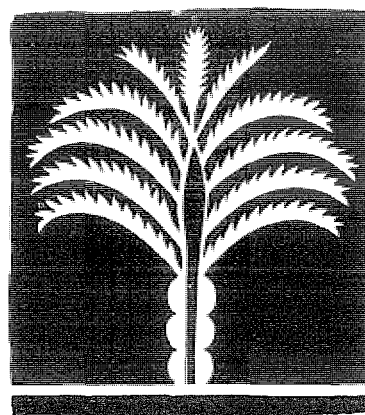
Botanical remains of the date palm are everywhere scarce.⁹⁸ Fossil evidence from Thera shows that it grew there in a considerably earlier period (c. 37,000 B.P.).⁹⁹ There is no clear record for the long intervening period, but even before the excavation of Akrotiri scholars claimed the existence of the plant amongst the Bronze Age flora.¹⁰⁰ It could be that the concentration on palms in Thera art reflects a real situation.

Island art is not yet sufficiently well represented in the Bronze Age corpus to enable us to make statements of exclusion for a particular motif. Until recently, the palm tree was known from several Minoan and Early Mycenaean representations but not, to my knowledge

from the Cyclades.¹⁰¹ Thera provides a spectacular exception.

Equally striking is the degree to which the Landscape palms are the most naturalistic in the corpus of Aegean art. Palms first occur on a group of MM IIb Kamares pots from Phaistos (Fig. 11), stylized yet with characteristics of later representations, such as the bumpy trunk expressing the leaf-scars, already discernible (cf. the Thera ewer, Fig. 13).¹⁰² (Phaistos is an interesting location for the earliest known examples as the south coast of Crete is an area where local warm descending winds provide an acceptable climate for palms today.)¹⁰³ Only slightly later in date is the jar from the Loom Weight Basement at Knossos¹⁰⁴ decorated in a format typical of Minoan plants: a group of three palms, the central one taller, rising from an undulating ground; the lowest leaves curl downward in exaggerated arabesque. The species is clarified by the central inflorescence in which the individual dates are delineated (cf. Fig. 36 and Pl. 31 and the A 1 fragment, Pl. 32). The inflorescence of The Landscape palm is likely to have had the same (though reconstructed without detail). The Loom Weight jar marks the beginning of that schematization of the palm which the Mycenaeans were later to exploit to the point of design: leaves composed of three elements, a pair curving below, symmetrical out-stretched leaves above, and at the top a single bulbous 'leaf' with terminal point.¹⁰⁵ The pattern is applied to the A 1 fragment (Pl. 32) and to its contemporary the Vapheio cup in Pl. 31 (while the A 1 amphora palm (n. 79) comprises the top two elements).

Immediately to the left of the Vapheio palm is a short trunkless plant. It looks as though the top two elements



11. Palm tree on an MM IIb Kamares jar from Phaistos.

of the adult palm had been cut off and planted below; in fact it is a stylized rendering of a young sucker plant. Suckers, on the few occasions that they are shown in Aegean art, always share the characteristics of the adult palm to which they belong: either repeating the top growth of the older plant as in this case, or expressed by a single leaf in the style of the tree, the most likely explanation for the 'leaf' of Fig. 12 (cf. Pl. 59, lower left).¹⁰⁶

Yet the Landscape palms are exceptional in that they have been acutely observed and individually rendered. These are whole plants, like the parent, not token elements (such as a single leaf or top few leaves), but with characteristics of their own. The heads have fewer leaves, not yet drooping down with age; the trunks are different heights, indicating different stages of growth; the leaf-bases project into points as they would before dropping off to leave the smooth leaf-scars of the mature tree.

On the Vapheio cup the sucker emerges from the ground immediately next to its parent. It has not been transplanted for cultivation but is growing wild. The significance of this factor is that the two species of tree depicted on the two Vapheio cups appear to reflect the nature of the bulls and the scenes which they evoke. On the one, a wild kicking bull rushes past palm trees. On the other, the bull is tamed, and the animals walk or stand calmly next to an olive tree, virtually a symbol of culti-

vation for the Aegean. Thus the wild and the tamed are echoed in plants and animals.¹⁰⁷

This association of the palm tree with a wild animal is a reflection of a recurrent theme. Lions appear with palm trees on, for example, three sealings from Crete (Ayia Triada, Zakros and Knossos) thought to be from the same seal (Fig. 36);¹⁰⁸ on less realistic seals from Crete, Pylos and Mycenae;¹⁰⁹ on the box plaques and the inlays from the Mycenae Shaft Graves V and III respectively in Pls. 59 and 58; and on a Mycenaean wooden pyxis lid found at Saqqara (Fig. 41). In the last three examples, the lions chase their prey. Here we are led back to the theme of The Landscape frieze: lion-bodied griffin and large cat chase their prey in a landscape dominated by palm trees. The difference – a vital one – is that these are not wild but cultivated palms carefully landscaped along the river.

In this instance a theme of the popular imagination – the mighty and rare lion galloping amongst majestic palms – is transformed into a domesticated version by the intervention of man. None of the strength of the scene is lost, on the contrary; and in case even the exotic palms and papyri should seem tame in their controlled setting a winged griffin adds a touch of fantasy to the scene.

However we interpret the place – as an imaginative wilderness of the artist or of popular folklore, or as a local park into which exotic species have been imported



12. MM III polychrome clay ostrich-egg rhyton from Knossos.



13. Polychrome spouted ewer from Δ 9, Akrotiri.

– the fact remains that the process of cultivation of the palm was understood and is shown in practice. This is not done without a purpose. It is hardly conceivable that so much trouble should be taken merely for the production of something to look at, particularly when large numbers of the plant are involved.

Wherever the palm tree grows, and in particular wherever it is cultivated, it is put to good use. Virtually every part of the date palm – fruit, leaves, fibres, trunk – is economically valuable. Many uses are documented from Egypt and the Near East: dates for human consumption (when ripe) or animal fodder or fermented wine (when not); sap processed to a sugar-substance or fermented for wine or made into vinegar and used as a preservative (for food in Mesopotamia, for mummification in Egypt) and as a perfume foundation; flowers and fruit in medicine and charms (in Egypt); the hearts as a gastronomic delicacy and an ingredient in exorcistic rituals (mentioned in Babylonian texts).¹¹⁰

Any of these uses would be at least theoretically possible for the Aegean-grown palms with their otherwise inferior fruit. Certainly the man in the A 1 fragment has something on his mind as he gazes at the unripe dates and reaches towards them with his hand (Pl. 32).¹¹¹ And is it merely coincidence that one of the Akrotiri pots decorated with palms is an amphora – ideal for wine – and was found in the same room as this fragment of wall painting? On a seal from Naxos a man guards a palm tree; between them is a table or an altar with a dagger or sword and three vessels: an amphora, a jug and a rhyton (Pl. 34). Is this strictly a libation scene? Or do we also see the equipment for produce from the palm: cutting knife, storage and pouring vessels?

Yet even without a knowledge of these more specialized processes there is an infinite variety of more obvious uses for the palm tree, and it seems at least probable that people as familiar with the palm as the painter of our grove would also have known of its by-products. Timber (though unusual) can be made from the tree, and at Thera, from the very room of The Landscape painting, Marinatos reported finding remains of boards along the walls which he considered to have been palm wood.¹¹² Leaves and fibres are more universally used: leaves for roofing and walling in warm climates, as fuel, fencing, brushes, matting and coarse basketwork; leaflets for fine basketwork, mats, wickerwork, sandals, belts, and even in furniture; fibres for rope, fishnets, brushes.¹¹³ The leaf and fibres have also been used in shipbuilding, the latter to bind the mast, the former decorating the stern or bow.¹¹⁴

It is presumably because of its great variety of by-products, its importance as a provider of life-giving food,

medicinal aid and intoxicating drink, as well as shelter and protection, that the palm tree has held a special place in religious iconography. Almost universally the date palm has been associated with flourishing life and the overcoming of death. Some scholars have identified the tree of life itself as the palm; but above all it is the leaves that have been imbued with this significance, Palm Sunday being the best-known example.¹¹⁵ It is surely not coincidental that the Greek word for the palm – *phoinix* – also refers to the mythical bird of Egyptian origin who rose from the ashes of a mighty fire¹¹⁶ to a renewed life; and the association is continued in later European fire-festivals when ashes and palm branches were mixed with the seed at sowing.¹¹⁷ In ancient Egypt the Phoenix bird was the *Ba*: the animated existence of the dead man. Similarly, the date palm was seen as symbolizing Victory over death, and the leaves as a symbol of Time and the Years.¹¹⁸ The holy groves represented on the walls of the mortuary temples were filled with date palms intended to provide nourishment and life-giving shade for the ‘living’ dead.¹¹⁹ In Greek mythology association of the date palm with life can be seen in the story of Leto giving birth to Apollo under a palm tree on the island of Delos.¹²⁰

Perhaps a reflection of these widespread religious ideas can be glimpsed in the Minoan–Mycenaean glyptic scenes of palm-like boughs placed on an altar or horns of consecration and watered by protective daemons.¹²¹ At Knossos, the throne and its occupant were guarded by griffins in association with palm trees (above, n. 77). While on the seal from Naxos in Pl. 34 the palm is shown to have such importance that it is guarded by a man holding a spear.

Nothing of this is visible in the painting. But the ideas were circulating in the ancient world; and just as the genre on which this scene was based and the palm trees themselves were imported from southern lands, so might the attendant associations of popular thought and belief. Transformed, almost certainly; likely as not misunderstood in the way of such things; but nonetheless assimilated at some point in the history or prehistory of the Aegean. For it is surely significant that *phoinix*, the word on which these associations rest, is Mycenaean Greek (n. 97).

Whatever the reasons for the cultivation of a grove of palm trees along this winding river – whether for the utilization of the trees’ by-products, or for a pleasure park or ancient ‘botanical garden’, or even as an artist’s scene evoking popular beliefs – The Landscape frieze provides an insight into the importance of the palm tree on Thera at a time when elsewhere in the Aegean it appears only rarely.

Dwarf fan palm

The observation was made above, that some of the small palms in The Landscape frieze have smooth leaves rather than the usual pinnate leaves of the date palm. Several of these have in fact been reconstructed in their present state but enough survive to show the varieties involved. Beneath the hind-legs of the griffin (Pls. 4 and 60) is a squat smooth-leaved plant with the beginnings of a segmented trunk. Like the plant to the left of this, it appears to be an artist's hybrid intended to represent the young date palm but inaccurately attributing to it smooth leaves, either in memory of the very first infant leaves which grow before any sign of the trunk and which lack the later feathery leaflets, or in confusion with the second type of smooth-leaved palm. This second type emerges straight from the ground or from a short stem but with no segmented trunk. The best-preserved of those with a stem can be seen on the left of Pl. 35; the 'stem' is in fact divided and is formed of several slender leaves rising from the same point. In front of the deer are two smaller versions of this leafy plant, well preserved, and growing straight from the ground (Pl. 36).

It is quite likely that the plant represented in these examples is the dwarf fan palm, *Chamaerops humilis*. *Ch. humilis* has fan-shaped leaves cut palmately (like the fingers of a hand) into stiff smooth lance-shaped segments; it grows to a height of 0.50 m, and is usually (though not always) stemless. This is the only native European palm; its natural habitat is sandy, rocky places (Pl. 37 shows it growing near the sea) where it is often found in dense bushy patches since it too is a suckering plant. Growing today on many of the Mediterranean islands, the dwarf fan palm is particularly common on Crete, as it was in the time of Theophrastus (who comments that the leaves were woven into baskets and mats).¹²² Fossil remains on Thera indicate that it grew on the island prior to the Bronze Age.¹²³

Once again, a plant represented in The Landscape frieze suggests observation rather than dependence on iconographic formulae. The fan-shaped leaves are aptly descriptive (Pl. 36). It is possible, however, that this is not the first portrayal of the plant. Amongst the many 'reed' types of Minoan ceramics is a heavy squat variety with broad lance-shaped leaves which Furumark describes as 'cactus-like'.¹²⁴ It is not fan-shaped but neither is it entirely reed-like. It may be a combination-plant which has the dwarf fan palm somewhere behind its inspiration. The closest example of this ceramic plant to *Ch. humilis* and to the plant in the painting is on a local amphora from Thera (Pl. 38).

Saffron crocus

The crocus is one of the most widely represented plants in Minoan painting. It is less well represented in the West House paintings but does appear allusively. In The Ship Procession, stylized crocuses form the pendants of the dress-ship lines on the flagship (Pl. 39); on the sailing ship similar crocus blooms are painted along the hull (Fig. 14). The large figure of The Priestess is holding parts of a plant over a brazier and it seems likely that these represent the stigmas of the saffron crocus (Pl. 41).

Elsewhere in the Thera paintings the plant occurs twice. In a fragmentary painting from the area of the Room of the Monkeys it grows on rocky ground between two animals (probably goats).¹²⁵ Cameron's restoration of the paintings from the House of the Frescoes shows that there, too, crocuses are associated with rocky land and (fragments of) two agrimia (Cretan wild goats).¹²⁶ The Knossian Crocuses and Agrimia panel was associated with the Birds and Monkeys Frieze (Fig. 22). At Thera, according to the Reports, the Crocuses and Animals came from the same area as The Monkeys painting (Pl. 45). Thus not only are the single compositions analogous, but so too is the juxtaposition of scenes.¹²⁷

Crocuses form a central theme in the paintings from Room 3 of Xesté 3 (Pl. 40).¹²⁸ Although the heads of flowers have been picked by the women, the stalks splay out from a concentrated clump, a characteristic form applied to crocuses in Minoan painting (and to no other plant) which identifies the flower.¹²⁹ Here again there are analogies between Thera and Crete, for the theme of women picking crocuses is reiterated in a painting from Ayia Triada.¹³⁰

Certain themes emerge from these comparisons: the crocus is collected by and associated with finely dressed women, perhaps votaries or priestesses; the crocus is collected by and associated with monkeys. The latter is exemplified by the Knossos Saffron Gatherer;¹³¹ but blue monkeys are also associated with the crocus-gathering women from Xesté 3; and the associations extend, in abbreviated form, to glyptic iconography.¹³² If the Minoan world had left behind a literary legacy I would not have been surprised to have found the crocus and the monkey involved in some mythic episode, nor to have found that both bore a relation to a female deity. As it is, we can only glimpse the implications of such repeated associations in the visual arts.

The crocus belongs firmly to Minoan and island iconography rather than to Mycenaean – unlike the other popular flower, the lily, which was transferred to mainland imagery and religion. Besides the wall paintings mentioned above, there is a recently discovered scene

with crocuses bordering a stream from the Stratigraphical Museum excavations at Knossos; and two isolated crocus fragments, one from Palaikastro, and an idiosyncratic rendering from Rhodes.¹³³ The latter type – which is paralleled in the Knossos Saffron Gatherer – comprises single disassociated blooms on short stalks. It is, in fact, the usual ceramic type. Popularity of the crocus motif – in pottery as in painting – was at its height in MM III–LM I. In all examples of the growing plant represented in paintings, the stigmas are shown rising between three petals. On pottery, however, this type alternates with a basic three-petalled form.¹³⁴ Crocus (and lily) are the most popular ceramic motifs at Thera and there is a wide variety.¹³⁵

The mural types at Thera relate to the ceramic variants. The flowers of the Crocuses and Animals have three plump petals with two-pronged stigmas projecting in between (four in all), the most common type on the Theran pottery. On the Xesté 3 flowers, only the stigmas remain, the paint from the petals having flaked away.

In the West House, all three instances of the crocus separate the petals from the stigmas. The Priestess holds the stigmas, and the ships' decorations conform to a pottery type which is a refinement of the three-petal head detached from its surrounding plant with the spaces between the petals closed.

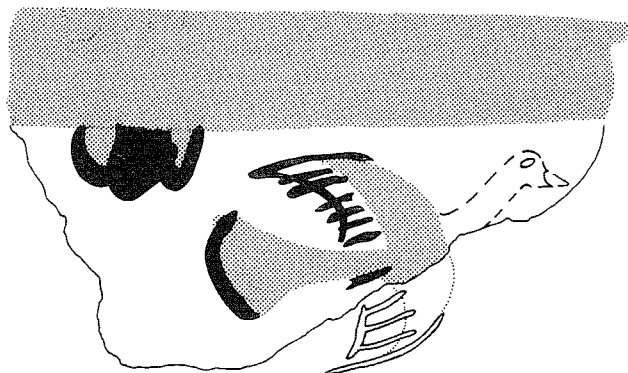
Decorating the hull of the sailing ship are detached crocus blooms associated with flying birds (Fig. 14). A remarkable parallel of associations survives on a silver goblet from Dendra (LH IIB–IIIA) shown in Fig. 15. Birds fly within quatrefoils, above and below which are motifs akin to the ship's crocus blooms; the entire decoration has a background of scales indicative of sea (cf. p. 35 below).¹³⁶

The flagship in the procession is distinguished by a double row of dress-ship lines hanging from mast to

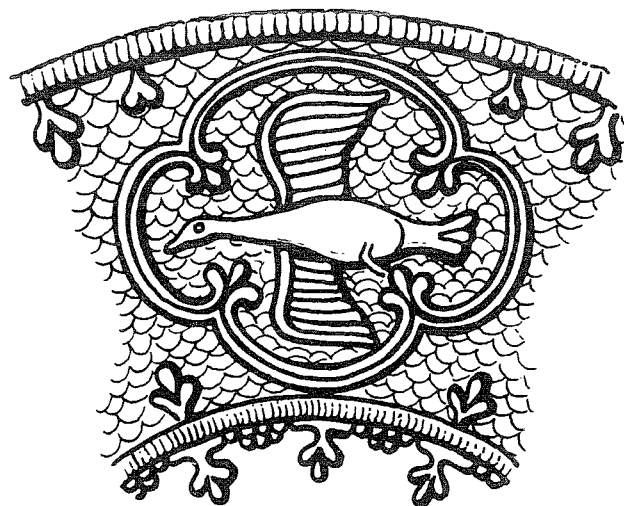
proW and stern, comprising an iconographic feature known in ceramic terminology as 'festoon and pendant'.¹³⁷ The lines constitute rows of beads from which hang, at regular intervals, detached crocus heads. The latter have three plump petals without spaces between, the central petal being slightly longer. On pottery, this combination of crocus pendant and festoon is a feature of LM Ib/LH IIA. The ceramic version has a slightly different form from that in the painting: an additional, smaller, double or treble row of dots hangs from the row of beads between the crocus pendants, thus forming a multiple rather than a single festoon (Fig. 16).¹³⁸ The crocus bloom comprises the same three petals with the central one slightly longer, but in between these petals are two wedge-shaped forms representing the tops of the stigmas or the anthers of the stamens.¹³⁹

The motif is said to have originated in Minoan jewellery as depicted in MM III wall paintings;¹⁴⁰ but an embryonic form exists in the Knossos Saffron Gatherer where rows of beads drift around the crocus blooms. When it appears as a jewellery motif, the blooms usually run sideways in a line parallel to the row of beads rather than hanging from them in vertical pendants.¹⁴¹ It is only with the association of the motif with the marine world, in the Theran painting, that the characteristic 'festoon and pendant' is formed. The association of the motif with marine elements in LM Ib pottery, as on the Tyllissos amphora in Fig. 16, takes on a new significance in the light of The Ship Procession.¹⁴²

Behind these recurrent themes – the organized collecting of the crocus flower or stigmas, the implication of



14. Crocus and bird motifs on the hull of the sailing ship: detail of The Ship Procession.



15. 'Crocus' (?) and bird motifs, repoussé decoration on an LH IIB–IIIA silver goblet from Dendra.

associated worship, and the transference of the plant to the marine world and as festive bunting for sea-going ships – may be glimpsed the idea that the plant's esteem lay in its economic value as the product saffron for overseas trade.

Platon points out that the plants most frequently represented by pictographic signs were those most widely cultivated as farm crops: wheat, barley and olive, but also saffron.¹⁴³ In the MM II Hieroglyphic Deposit at Knossos the crocus appears on several sealings, as do the olive, the bee (honey) and ships:¹⁴⁴ the products and the means of trade. The sign continues, in slightly modified form, into the Linear A and B scripts, where it is a pictogram among agricultural produce with numbers for measurement.¹⁴⁵

Of the many varieties of spring and autumn crocuses it is the autumnal group *sativus* which produces the product saffron. The best-known wild variety in Greece (including the islands) is *C. sativus cartwrightianus* (which is generally autumnal, though it flowers in spring

when growing in the mountains); but today *Crocus sativus* is more a cultivated plant. (Pliny comments that the wild saffron is more potent than the cultivated, though the latter is more handsome.)¹⁴⁶ The *sativus* group is distinguished from other crocuses by its three exceptionally long, brilliant orange-red stigmas which often project beyond the six petals. It is these stigmas which produce the saffron.

In Minoan art the colours of crocuses vary between white, orange, pink, red and even blue, so they provide no clue as to identification of sub-species.¹⁴⁷ But virtually always, when the whole plant is shown, the stigmas project accurately in flaming orange. In most examples, too, the short stems and long narrow leaves are correctly shown. Clumping occurs naturally when the plant is growing in soft soil; but usually this is because several bulbs have been planted together.¹⁴⁸ The clumps in the paintings, therefore, strongly suggest that the plant is cultivated rather than simply naturalized (in the Xesté 3 Crocus Gatherers they even appear to be growing in pots).

The huge stigmas are collected, dried and crushed to produce the much-esteemed yellow saffron dye. As many as 4,000 stigmas are needed to produce one ounce of dye, so it must have been a luxury commodity when hand-picked by such elegant ladies as those in the paintings. The dye was, and still is, used to colour and flavour food. It was also the source of yellow dye for textiles: the yellow gown of The Priestess comes to mind. It has been used medicinally and as a sedative in ancient and modern times. Theophrastus mentions saffron as a constituent of perfume.¹⁴⁹ It is hard to know quite where this valuable produce would have been exported to – saffron is thought to have been produced in Syria, Egypt and Cilicia as well as Crete, though not, apparently, in Palestine¹⁵⁰ – but considering the relative importance of the plant in Minoan iconography compared to that of neighbouring lands, we may surmise that the Aegean was the major marketing area.

It appears that in the Theran paintings four stages in the life of the saffron crocus are depicted. They grow, flowering and untouched, in the Crocuses and Animals. The stigmas are picked and collected into baskets by the young women in the Xesté 3 cycle (Pl. 40). The Priestess dries the stigmas (Pl. 41).¹⁵¹ And, finally, among the ships, the dress-ship lines bear rows of crocus blooms (Pl. 39) and a hull is decorated with the same (Fig. 14), leading us to speculate as to one of the products carried in the cargo-hold of that vessel. If, as I argue in Ch. 10, the ritual performed by the Priestess is intimately concerned with the welfare of the ships, we must assume that the saffron (if that is what it is) is not merely an irrelevant adjunct but has some meaning in the ritual.



16. LM Ib amphora from Tylissos.

A plausible argument would be that the crocus was cultivated on Thera to produce the saffron product as part of the island's maritime trade.¹⁵² Of the famed saffron flowers of ancient times, Pliny enumerates those of Cyrene, Cilicia, Mt Olympus in Lycia, and Centuripa in Sicily; but the finest, he said, was the saffron of Thera.¹⁵³

THE ENVIRONMENT

Coastal land

Each of the scenes in the miniatures exists firmly in a physical setting appropriate to the participants and the events. On the North Wall, there could be no meeting without the hill, no shipwreck or implication of a coastal raid without sea and coastal land; on the East Wall the physical environment is a subject in itself on the one hand – park or garden with cultivated plants – and an indispensable setting for the hunt of animals and birds on the other; on the South Wall rocky headlands delineate the limits of sea and harbour for the ships and define the townspeople and the event as marine-oriented. The scenes could not exist without the land, and the land would be meaningless without the scenes.

The paintings therefore provide a rare insight into the physical environment of the time. For local geographic conditions of the Bronze Age can be elusive. Land changes and subsidence of coastal areas can make it hard to interpret the original surroundings of a site; little could have prepared us for the idea of a settlement built on marshy deltaic flats such as the Departure Town.

Yet there are few surprises in terms of Aegean geography, and the landscape in general is immediately recognizable. One of the rare features of the miniature paintings is that they offer a 'long view' rather than a closed detail of a scene or place. Thus while *The Landscape* frieze gives no idea of what lies beyond a section of the river and the narrow strip of land on either side, the North Wall scenes and in particular *The Ship Procession* frieze offer a panoramic view both from side to side and from low to high. The landscape is opened out, and the details are clear as far as the eye would see. Paradoxically, *The Ship Procession* frieze offers more of a total view of the land than *The Landscape*. It is a view 'from the sea', one which any traveller in the southern Aegean would recognize. Hilly land descends straight down into the sea, forming rocky peninsulas on either side of which bays may offer protection for boats and harbour towns, while high up on the hills perch other buildings. The approach to many of the Cycladic islands affords such a view.

The irregular coastlines and numerous islands of Greece are the result of a geologically recent subsidence

of the land over a large part of south-eastern Europe, with a corresponding encroachment of the sea.¹⁵⁴ The Cycladic islands are simply the remnants of recent (Alpine phase) mountain chains projecting only at their highest points above sea-level. Submergence of the land left a coast characterized by rocky peninsulas. The number of places named 'Akrotiri' (a promontory) is witness to this feature, though that on Thera was, of course, created by the formation of the caldera.¹⁵⁵

Both towns in the painting excellently describe the features of the few Minoan harbours that are known, such as Pseira, Mochlos, Palaikastro, Dia and Nirou Chani, which were frequently on promontories or small offshore islands whereby the harbour could be formed on either side according to the direction of the wind.¹⁵⁶ The painting offers a rare glimpse of the relationship between buildings and harbour.

Akrotiri is a major coastal settlement set slightly back from the shore. The ancient harbour is thought to have existed directly to the west of the town in a bay sheltered by hills,¹⁵⁷ although changes in land formation have meant that the area is now slightly inland. Today the safest summer anchorages for sailing craft are in two small bays either side of the site of Akrotiri.¹⁵⁸ Winds and currents would have been much the same then as now, and ships and boats of the Bronze Age are likely to have docked on the south coast, near to Akrotiri. In the Arrival Area the relationship between the hill-top lookout-post above the harbour and the major settlement set slightly back from this may well be explained in terms of Akrotiri and its harbour.¹⁵⁹

Rocks

Artists at Thera took a particular delight in expressing the rockiness of the landscape. The strength of colour and variety of shape is at once familiar from their counterparts in Minoan–Mycenaean art and yet strange in their insistence. In virtually every painting where a natural environment is shown the ground is steep and rocky.

The Cyclades are virtually all high and craggy. Thera, which as it stands today is less than 5 km (3 miles) wide, reaches a height of 567 m (1,860 feet) and although much of the southern coastline slopes gently to the sea, the island in general is aggressively rocky.

Today, the original island rock is largely covered with the ejected tephra from the great eruption. Multi-coloured layers of pumice and ash form a gigantic cliff along the inner rim of the caldera, a spectacular section exposed by the collapse of the centre of the island following the eruption. Reds, yellows, browns, whites in banded array up to 366 m (1,200 feet), gnarled by vertical channels of erosion. Where the tephra has eroded

right back, as in parts of the Akrotiri promontory and the north of the island, one of the pre-eruption lava rocks, andesite, can be seen. Remnants of the original pre-volcanic island exist in the high crystalline ridge of the south-east, which is composed of marble, metamorphic schist, limestone and phyllite.¹⁶⁰

In the paintings, the overriding impression is not at all of pale marble, sludge-coloured slates or black lavas, but of fantastic brilliantly coloured superimposed layers (vertically and horizontally) of reds, blues and yellows. Exaggerated colour is certainly characteristic of Aegean depictions of rocks, yet surely this is more than concession to convention. For the layer upon layer of vivid reds and yellows in the tephra section of the caldera, glinting in the sunlight and vying with the intensity of the sea, presents an exhilarating physical presence different from anything else in the Aegean yet utterly reminiscent of the rocks in the Thera paintings. Is it possible that this type of volcanic debris was visible to the Bronze Age inhabitants? The question is complicated by the fact that the area most likely to have included volcanic extrusions – the centre – is obscured from analysis by the effects of the major eruption and subsequent land collapse. Yet the paintings suggest that the island may have been visually as strange and emphatic a place then as it is now.

The volcano, whose remnant we see in the central caldera, has been active since Tertiary times.¹⁶¹ Countless small eruptions are known to have occurred during historic times and must have done so before the great 15th-century eruption. In the caldera section only the upper tephra layers belong to the great eruption of c. 1470.¹⁶² Hypothetically, earlier eruptions could have caused the formation of marine craters or a small caldera.¹⁶³ Had such existed, tephra would have been seen in a section. Yet even without an exposed section, the colours of volcanic debris must have been visible. Ejected tephra from earlier eruptions would have covered parts of the island, while igneous intrusions may have seeped through fissures in the non-volcanic rock, changing the structure of the land.

Tephra consists of ash, tuff, pumice and molten lava clots known as volcanic bombs (the weight of which can shift the horizontal banding of tephra into irregular formations).¹⁶⁴ Pumice (a vesicular glass) is usually grey, but on Thera the coarser pumice has strong reds and browns. The lava of Thera is basically a dark, almost black, andesite. Sulphur, which occurs as encrusted masses around volcanic vents and can be seen on Nea Kameni today,¹⁶⁵ is bright yellow. It is not hard to see the colours of the rocks in the paintings: yellow (ash and sulphur); pink and red (pumice and some ash); blue (perhaps the dark lava, andesite). Rackham, in commenting on the brilliantly coloured rocks of the Spring Fresco,

points out that 1 km west of the site of Akrotiri is a place which corresponds remarkably closely to the painting in both form and colour: 'part of an old lava-flow . . . coloured black, red, and yellow' with 'improbable pinnacles and overhangs', it is 'part of the old land-surface, and must have been more prominent before the surrounding land was buried in ash'.¹⁶⁶ The comparably brilliant rocks of the Arrival Town may also have taken their inspiration from such an area. But the point is not so much that the rocks in the paintings 'represent' the rocks of specific areas of the island, but rather that the apparent exaggeration of colour and form may have arisen less from artistic convention than we might have thought and more from the artists' awareness of the visual peculiarities of the island.

In the miniature paintings rocks take several forms: (1) bright banded areas representative of a rock-face in the peninsula of the Arrival Harbour; (2) simplified 'hill-top' rock above the Arrival Town and in *The Meeting*; (3) small banded 'pebbles' in *The Landscape*; (4) wavy horizontal strips representative of 'rocky ground' from which plants grow at the base of *The Landscape*; (5) rocky hills, apparently covered in scrub vegetation, descending into the peninsula of the Departure Area.

The first type is the one most reminiscent of Thera's peculiar volcanic appearance. Colour divisions are mainly vertical; but though tephra layers run in horizontal bands, long-term weathering and erosion will create vertical channels in the rock-face. It is the huge scale of the harbour rocks and the insistence on this type of colour division (*The Spring Fresco*, Xesté 3) which suggests more than mere convention. Banded and tri-coloured rocks *are* a convention of Minoan–Mycenaean painting, those from the House of Frescoes being closest to the Thera examples, though on a smaller scale and lacking the emphasized irregularity of shape. But generally rocks are stylized into conventional pattern, as at Pylos.¹⁶⁷ Or they relate to our second, third and fourth types at Thera: 'hill-top' descending rocks, pebbles, and ground-line.

It is a well-known Aegean convention that rocks may descend from the top of the picture as well as rise from the bottom. This is most common in the 16th and 15th centuries – the two Vapheio cups, the Birds and Monkeys frieze, the Saffron Gatherer, an LM I ivory plaque from Palaikastro,¹⁶⁸ the art of the Shaft Graves – but also occurs in later Mycenaean stylization as in the Blue Bird Frieze from Pylos.¹⁶⁹ At Thera it is seen better in ceramics than in murals: the marine table of offerings (Pl. 50) and the wavy zones on a marine-life kymbe.¹⁷⁰ Yet the hill-top rocks above the Arrival Town and those of *The Meeting* on the Hill also take their form from this spatial idea. The individual rocks descend rather than rise. They are

enclosed within an upper edge which forms a series of free-face rock-structures indicating the summits of hills.

Egg-shaped pebbles with internal banded divisions such as those of *The Landscape* are familiar from other paintings: the Caravanserai frieze, the Knossos Bull-Sports, the Pylos Lyre-Player.¹⁷¹ For the derivation of these painted pebbles Evans suggested cut conglomerate or the cut sections of banded agate used by stone workers and seal engravers.¹⁷² A common tradition is suggested between the painters' technique and that of Middle Minoan potters who seem to have imitated the veining of stone vessels.¹⁷³ Witness the painted imitation marble dadoes of luxury Aegean buildings seen to such effect in the West House at Thera. Indeed, veined dadoes and veined pebble-rocks occur simultaneously in MM III wall paintings, and in the Bull-Sports painting the frame is actually a pebble-dado.

Straight and wavy lines frequently define the lower and upper limits of Aegean painting, as in the Theran Fishermen or the Procession Bearers from the South Propylaea at Knossos. When defining the lower limits of paintings they presumably derive from representational ground-lines. In *The Landscape* wavy frame-bands are used as ground-lines indicating a generalized rocky land; the bands alternate in colour and at one point are interrupted by a dotted area (Pl. 35) probably indicating gravelly or stony ground among the larger rocks. This device, which appears to be more or less restricted to the 16th and 15th centuries, can be seen in the ground-levels of the Vapheio cups (Pl. 31), in the Caravanserai¹⁷⁴ and House of the Frescoes paintings (Fig. 22), on a painted stucco relief fragment from the North Entrance Passage at Knossos,¹⁷⁵ on an LH II sealstone from Dendra,¹⁷⁶ in the marine scene on the Dendra gold cup in Pl. 49, and as a less specific zone beneath the ground-line of the LM Ia reed pot from Gournia in Pl. 22.

Our last example of rocks – those of the Departure Town – is unique in terms of iconography though recognizable in terms of the real Aegean landscape. Blue defines the hill-tops and white defines areas for houses and people; otherwise once the land passes beyond the marshes of the waterside it is a rugged homogeneous red-brown terrain, clearly differentiated from the multi-coloured banded rocks of the Arrival peninsula. Thera is an island of varied structure. Travelling south one may pass the extravagant vision of the caldera and turn southwest to an area of andesite or east to the crystalline ridge of limestone and marble. Limestone is the main rock of the Mediterranean, and is frequently covered by a low scrub vegetation interspersed with pathways and clearings which appear white from a distance. It is plausible that this is how we should interpret the Departure land. Limestone, being permeable, is the most common

Mediterranean rock associated with rivers and marsh-land.

One mystery remains: running through this peninsula is a white strip. It could be an artist's whim. It is not likely to be a river, since it lacks the distinguishing marks (see below, pp. 35–8), the associated vegetation, and the colour blue. It could conceivably be some form of irrigation or land reclamation. The inhabitants of such an alluvial settlement must have had some form of drainage system if they wished to cultivate crops, for run-off from the deltaic flats would otherwise leave the land waterlogged. If these are dykes, they would be controlling the moisture level of a slope (the peninsula); indeed, terracing is the only way of extending agricultural land and of conserving water supply on the hilly Aegean islands.

Rivers, sea and marine vegetation

All the scenes in the miniatures are set by water. Each of the three settlements is coastal and viewed, as it were, 'from the sea'. In the Ship Procession frieze a river descends from the hills, dividing midway to surround the Departure Town before joining the sea (Pl. 8). In *The Landscape* a river undulates along the entire horizontal centre of the frieze (Pls. 4–7, 43). The prevalence of water provides a connecting element for the scenes in the West House.

The iconography of 'water'

Sea is rarely present as a physical element in Aegean iconography. It may be indicated by associative elements – ships, dolphins, marine life – but the sea itself in relation to land and coastal habitation had been hitherto restricted to the genre scene of Shipwreck and Warriors (Ch. 11). The relationship between land-formation and the sea in the form of peninsulas is restricted to *The Ship Procession* frieze; the emphasis is intentional for it is central to the subject depicted.

Rivers, too, are rare in Aegean iconography and nowhere as much in evidence as in the Theran paintings. Significantly, those few examples from elsewhere are each related in theme to *The Landscape* (cf. Ch. 11). For *The Landscape* frieze the closest parallel (in many ways) is the inlaid dagger from Shaft Grave V at Mycenae (Pl. 185). The river is central both to the composition of elements and to the meaning of the scene. It runs horizontally along both sides of the dagger blade, winding sinuously in its course, while cats chase waterfowl amongst papyrus plants. Presumably a river is intended to be read on the Rutsi ivory comb with the same theme (Pl. 186), for the curving 'echo' lines which indicate rocky land above and below leave, in the central space in which

the cats and birds enact their drama, a sinuous horizontal course. On a seal of unknown provenance in the British Museum a Mistress of Animals holds waterfowl heraldically in each hand and stands on an undulating double line indicative of a river (Fig. 50). On a seal in the Ashmolean two waterfowl perch above a river.¹⁷⁷ In all these cases the water-course is associated with specific aspects of riverine life and activity, all of which are present in *The Landscape*: papyrus, waterfowl, hunting cat.

Water-courses occur amongst the elements (papyrus and birds included) from the House of the Frescoes reconstructed in a drawing by Cameron as the Birds and Monkeys Frieze, a detail of which is shown in Fig. 22.¹⁷⁸ Originally, Evans saw the undulating courses in the scene as separation units of gravelly ground.¹⁷⁹ However, pebbly ground below contrasts with the area in question, and growing along the edges of the area are, again, the riverine plants of reeds and papyrus. The long, blue-green, narrow winding courses surely indicate rivers or streams as Cameron intimated in his drawing, where two 'waterfall' fragments are joined in each case to one of the undulating courses.¹⁸⁰ This undulation (noted in all the above examples) is the image for a water-course on land as opposed to sea. Aegean iconography differentiates between the two.

Formulae to indicate types of water are necessary in the small monotoned art of glyptic and usual in most other media. Generally, the idea behind such formulae is that of 'waves' or, in the case of rivers, water movement. In Egypt, for example, rivers or ponds are represented by close-set parallel zig-zag lines filling the area of blue in formal array (Figs. 74, 75, 94). On Akkadian seals, fish-filled rivers take a sinuous course (cf. the inlaid dagger from Mycenae); while Assyrian reliefs depict water in regular rows of curled wavy lines.¹⁸¹

Sea is indicated in Aegean art in three ways: a zig-zag line; net or scale pattern; seaweed or coastal rock and vegetation. The last two may frequently be combined, but the first is restricted to a position beneath ships on sealstones and thereby indicates 'open sea'. It takes the form of a single zig-zag line, angular or curved, usually below the hull (Pl. 33; Figs. 76, 83), occasionally on the hull itself (Fig. 89).

The net or scale pattern indicating sea is peculiar to Aegean iconography. It occurs as a backdrop for fish – as on the LM Ib Pseira rhyton in Fig. 17 and the Knossos Dolphin Fresco – but not *on* fish, therefore not derived from fish scales. Elsewhere the pattern is a sign, isolated from associations, indicating a type of natural element, to be read within the context of Aegean iconography. (For the sign was common in the Near East too, but there signified 'mountain'.)¹⁸² It occurs on a marine fresco

fragment from Phylakopi¹⁸³ and on the Mycenae Siege Rhyton (Pl. 192), where it is automatically read as 'sea'. In confirmation of this interpretation, the newly published fragment from the related Epidaurios siege scene (Pl. 194) shows a figure floundering in the same sea-structure. We read the sign partly by the nature of the genre scene depicted (see Ch. 11), partly by the swimming or drowning figures, and partly through knowing the sign in its context.

This example demonstrates how the structure of the visual language enables us to read a motif as a sign denoting a specific element of the natural world – 'water' – even though it bears no physical resemblance to that element. An even more potent case is the sign denoting river or water which was mentioned in the Introduction (pp. 13–14) as an example of transference of vision and idea into motif, now to be discussed in its context.

On the Pseira rhyton, Fig. 17, the net sign denoting 'water' surrounds the dolphins; but above, along the shoulder and neck of the vessel, is another indication of the marine world: stylized coastal rock with marine vegetation. The two motifs have a single associative idea – sea – so may be assimilated into one another. Thus on LM Ib pottery the net/scale pattern is transferred to inside the coastal rock (Fig. 18),¹⁸⁴ a combination which recurs on an inlaid dagger with marine motifs from Pylos.¹⁸⁵

Coastal rocks occur in the miniatures primarily in the Shipwreck scene (Pl. 42), where they project into the sea from the coastline, thereby clarifying the element in which the ships and drowning figures exist. Their sea-like nature is emphasized here not by internal scales but by differentiation of colour: blue fills the rocks (as it does the rivers in the other scenes), thereby transposing 'water' into 'rocks' in the same way as the scale pattern. The resulting composite sign in both cases denotes coastal rock. A heavy black line curves with the concave sides of the rock face but on the convex edges extends beyond the outline into bifid or trifid projections. These projections are indications of marine vegetation or growths. They take three forms: the short squat variety seen here; a longer thinner version; and a much longer version with 'leaflets' attached. On the Palaikastro rhyton, Fig. 18, all three types can be seen simultaneously; on the Pylos dagger, the first two; and on the Tyliissos amphora in Fig. 16, the last two (within and without the trefoil rocks).

Although marine rockwork and vegetation is characteristic of the LM Ib Marine Style, it had forerunners on MM pottery and on intaglio and relief work mainly of MM III–LM I.¹⁸⁶ (For examples of the latter see Fig. 44, stone vessel from Knossos, and Fig. 45, gold cup from Shaft Grave III at Mycenae.)¹⁸⁷ In wall paintings, a naturalistic rendering of rocks and sea spray provides the

setting for the Flying Fish from Phylakopi; and rocks with squat projections occur amongst the fragments from the House of the Frescoes (Figs. 21 and 22). Of the three types of rock-projections mentioned above – squat, long, leafy – only the first occurs on any of these early examples, while the longer and leafy types of vegetation appear on LM Ib/LH II ceramics. Yet they are also found at Thera. A pot in the Thera Museum has both squat and long types (Pl. 46). Something akin to the long type can be seen on two kymbai from the West House and the House of the Ladies¹⁸⁸ and on a painted stucco table of offerings from Δ 8.¹⁸⁹ The marine table of offerings from the West House (Pl. 50), which in its naturalistic detail is more akin to the work of a mural painter than a pot decorator, has the greatest variety of marine vegetation known to Aegean art.

In the miniatures (which may have been painted just a short while before this table of offerings) only the first squat type occurs. It is a form which seems to take its inspiration simultaneously from rock nodules and con-

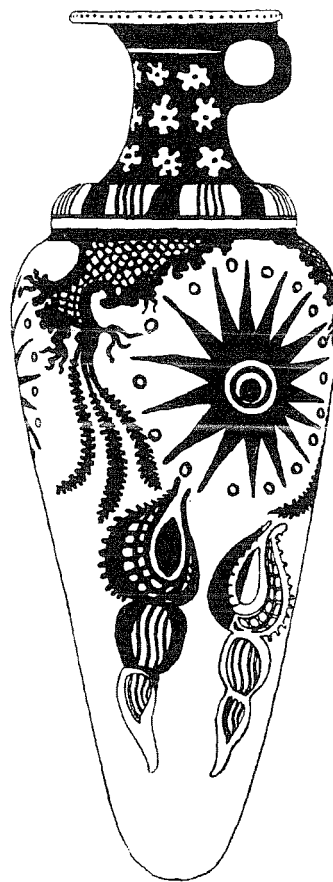
cretions and from certain types of marine vegetation (though not, I think, from coral as sometimes claimed, for this occurs in deep rather than coastal water).¹⁹⁰

In the miniature paintings coastal rock indicates the boundary between land and sea. In the Shipwreck scene it occurs as a distinct area of rock with vegetation, defined by a different colour and extending outward some way into the sea, but beginning on land. The thick dark outline which defines this area of rock is repeated along the lower edges of the peninsula of the Departure and Arrival Towns (Pls. 9 and 12). Here there is no differentiation of colour between land and marine rock, the lines of concave curve and convex projections are simply an abbreviation of the marine growths on the edges of coastal rocks.

Almost certainly these take their inspiration from the varied species of seaweed or algae common to the Mediterranean coasts. The visible structure of algae varies considerably according to species, but the three types observed above – short squat, longer smooth fila-



17. LM Ib rhyton from Psaira.



18. LM Ib rhyton from Palaikastro.

ments, long filaments with leaflets – are typical. Figs. 19 and 20 give two examples which suggest our squat and long types.

The approximate identification of these visual structures with certain types of algae provides the source of the motif in the real world, but it does not explain its development as a sign indicating 'water'.

The paintings from Thera provide what had hitherto been a missing link in the development of the motif. It had been impossible previously to interpret the sign when it was abstracted into a less recognizable context: but each stage of this abstraction is represented in the paintings.¹⁹¹ The motif of bifid stalk on wavy ground appears simultaneously in its original form growing on coastal rock (Pl. 42), as an intermediary form indicating 'coast' along the peninsulas (Pls. 9 and 12), as a further abstraction indicating 'coastal wetness' in the marshy land of the Departure Town near the confluence of the two rivers (Pl. 44), and finally in its total abstraction as a sign meaning 'water' running along the interiors of the rivers in the same scene as well as in the river of The Landscape frieze (Pls. 44, 43).

It now becomes possible to recognize the wavy band with bifid stalk on LM Ib floral-style pottery for what it is: a river (Pls. 23, 47, 48).¹⁹² In the early part of LM I, reeds (more widely spaced than the later versions) rest on a straight band (Pl. 22). This is a ground-line, and the dotted area of the Gournia amphora suggests gravelly earth just as it does in paintings and on the Vapheio cups. The change in the later LM I floral style is one of type not of style: the straight line changes to a wavy line and dots are replaced by the sign indicating 'water'. Dry ground has become a water-course. The fact that the water sign occurs in conjunction with riverine plants – reeds and papyrus – confirms this observation.

The process whereby this sign was abstracted is shown by the diagram in the Introduction (p. 14). The paintings contain the process of abstraction. When Furumark analysed this sign, which he called 'small sprigs', he saw its origins in the Vapheio cup in Pl. 31 and the Dendra cup in Pl. 49.¹⁹³ While this was perceptive, it now appears to be only part of the story. On both cups the ground-line is wavy and from it extend small trifid projections. But the Vapheio cup scene is set on dry land and the projections are young palm plants (cf. pp. 26–7); on the Dendra cup the projections appear to take their inspiration from this palm source and they rest on a dotted (i.e. ground) wavy line, but a transference has occurred and the scene is now unquestionably marine: octopus and dolphins swim amongst the wavy areas from which the projections emerge and the sea-like nature is emphasized by the scale pattern. While young palms are part of the inspiration behind the sign it is the fact that palms grow by water-courses that is important in this instance, the associative ideas being combined in the Dendra cup. It is notable that when the sign occurs within a river in The Landscape frieze it is in association with young palm trees.

The other, more important, source of inspiration is the rock and algae motif which defines the boundaries between land and water. The heavily drawn irregular outline of curve and projections in the Shipwreck scene leads naturally into the more abstract single row of alternate curve and projection which defines the watery land-borders of the peninsulas and the area of the confluence of the two rivers in The Ship Procession frieze. So evocative was this sign that it is painted along the hull of the ship leaving the Departure Harbour (Pls. 9, 176). If we look closely at the original source – the rock and algae of the Shipwreck scene (Pl. 42) – we can see that already the process of abstraction is taking place, for the black



19. Green algae, *Udothea desfontaini*.



20. Green algae, *Caulerpa prolifera*.

bifid stalks project not only outward into the sea but *inward* into the blue 'water-rock'. It is this that enables the sign to move inside the rivers as an indication of water. Something of the same process can be seen on the marine pot in the Thera Museum (Pl. 46). Here the scale pattern indicating 'sea' alternates with regularly-shaped rows of curves and bifid projections. The process of stylization which changes the representative element into a sign can thus be followed at Thera.

Compare Fig. 21, a fragment from the House of the Frescoes which Evans took for 'marine'.¹⁹⁴ Bifid stalks project both outward and inward; yet the only other indications of water are small patches of blue, and the area below is a dotted, i.e. gravelly, ground. Cameron, in considering the fragment in relation to the Birds and Monkeys Frieze, which has no marine elements, concludes that it represents land rockwork.¹⁹⁵ Nonetheless, in his reconstruction drawing he places the fragment adjacent to a river course (Fig. 22, lower right). The sign for water is in the process of abstraction just as it is in the land of the Departure Town (Pl. 44) where it stands outside the confluence of the two rivers as an indication of coastal/riverine, and therefore watery, land.

This abstraction occurs once more at Thera, in The Monkeys painting from B 6 (Pl. 45). The blue monkeys clamber over stylized land rocks. Below are horizontal wavy areas of blue, yellow, red; inside and outside the main blue area are the bifid stalks proclaiming that here is a river.

In striking confirmation of this process of abstraction, when the riverine base-line for plants is first applied to pottery, in the reed jug from Phaistos and cup from Zakros of Pls. 48 and 23, the water sign is *inside* the river

(i.e. below the reeds) and a row of bumps *outside* defines the edge of the river bank in exactly the same way as in The Landscape frieze. The later development of the sign is shown in brief in the diagram on p. 14. Through LM Ib/LH II–LH IIIa the sign moves from inside the river to outside and the river is metamorphosed back into rock;¹⁹⁶ the process comes full circle.

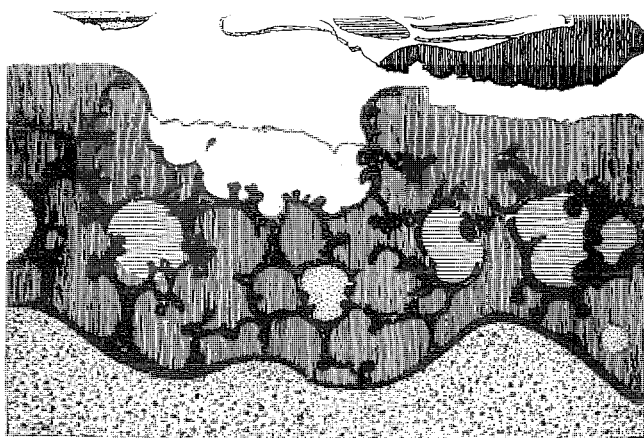
Rivers in the Aegean

If the existence of two riverine scenes in the miniature paintings is a surprise in view of the relative scarcity in Aegean iconography, the relationship of the river courses to the surrounding land-formations is precise and intelligible. The internal sign for 'water' may be an abstraction, but the larger context is real enough.

The rivers draw our attention once more to the question of the location of the scenes. Thera is notoriously dry and the Greek islands in general do not have large or perennial rivers. Nevertheless, the rivers in the paintings have certain Mediterranean characteristics. The winding course in The Landscape is expressive of the lower courses of rivers in Greece in which meanders develop across the small coastal plains.¹⁹⁷ The land of the Departure Town, with its divided river creating a marshy island built up from its alluvial deposits, indicates the way in which small rivers in many parts of Greece reach the sea through deltas. Perspective has been distorted for the sake of symmetry, thus the tributary on the right emerges horizontally from the main river on the left, appearing to have its source in the lower rather than the upper course of its parent. But the effect is clear enough: the rivers are connected and on the intervening land an entire town has been built. Towns may, of course, be built on mature deltaic flats without too great a fear of subsidence, but they are not entirely practical. Malaria from mosquitoes would be a hazard and there would be little good drinking water. Furthermore, manoeuvrability and anchorage for large vessels would be difficult in the shallow water. This is unlikely to be a harbour town; if there was a harbour we must imagine it around the other side of the peninsula.

One should, perhaps, refer to streams rather than rivers in describing these water-courses, for they are not likely to have been of any great size. Large river systems are not characteristic of the Aegean and would be impossible on a small island. Streams, however, are plentiful, though even these are rarely perennial, tending to dry up in summer.

But could streams have flowed on the barren land of Thera? Volcanic rock is not conducive to the development of river courses; and the Bronze Age inhabitants are likely to have been largely dependent on wells, such as the one shown in the Pastoral Settlement (Pl. 16). (A built



21. Fragment from the Birds and Monkeys Frieze, House of the Frescoes, Knossos. (After Evans.)

well and troughs near the site may have served the inhabitants and domestic animals of Akrotiri.)¹⁹⁸ Yet the island was certainly less dry before the major eruption altered its geographical structure.¹⁹⁹

It is in the limestone areas of Greece that perennial streams, rising from springs fed from underground reservoirs, mostly occur. It was noted above that large areas of limestone exist on Thera in the south-west. When considering the different methods the artist of The Ship Procession frieze used to distinguish between the rocks of the Arrival and Departure Areas, it was suggested that the former multi-coloured and deeply stratified rock may be intended as volcanic, while the more homogeneous land around the Departure Town, apparently covered by low scrub vegetation, is more likely to be limestone. This agrees with the placing of the deltaic water-courses.

When we look at the island of Thera today, we see a great many dry ravines; but these are the result of erosion in the tephra layers and therefore have no bearing on the pre-volcanic landscape. We cannot expect to find traces of water-courses which might relate to those of the paintings. Nevertheless, the existence of rivers or streams in the paintings does not necessarily militate against the proposition that even those scenes are set on the island itself. Streams *can* exist on Thera, for within that same limestone area to the south-east of the island two small streams descend into the southern plain from the slopes of Mt Profitis Elias, a little way round the coast from Akrotiri.²⁰⁰

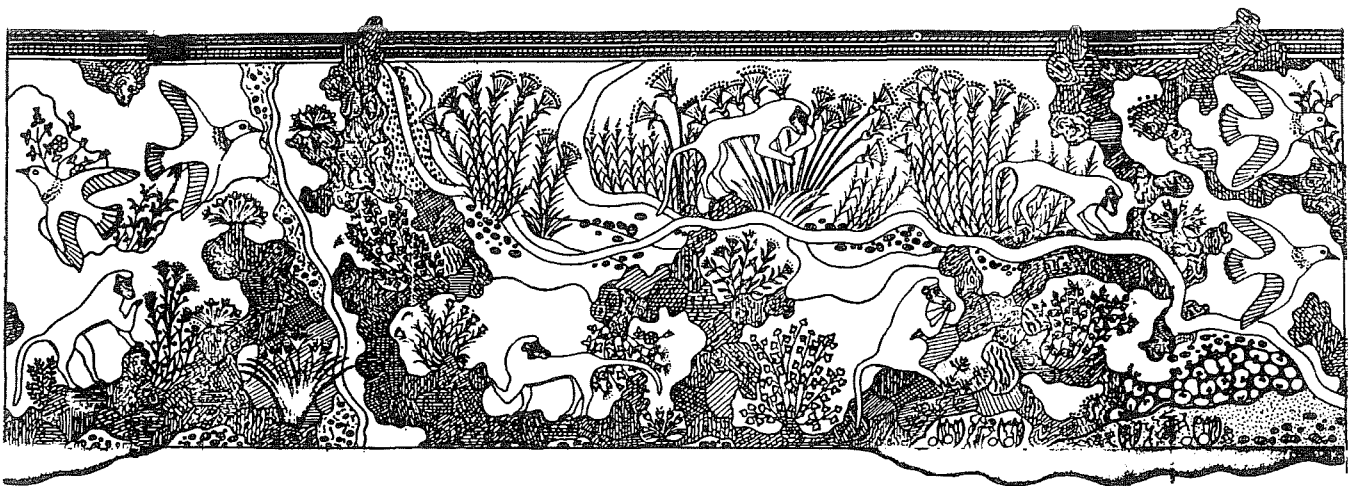
The landscape garden

The Landscape with its cultivated plants, both useful and exotic, and its central water-course, waterfowl and

animals, is characteristic of the garden or park as it was known throughout the ancient world.

In the Aegean, direct reference to gardens has not survived from the Bronze Age in the way that it has from the contemporary Near East and from later Greece. Yet several paintings strongly suggest the care and detail of horticulture. The Birds and Monkeys Frieze provides the fullest picture (Fig. 22). Native birds coexist with exotic imported animals, much as in The Landscape. The monkeys are thought to have been imported to the Aegean as household pets from East (or Central West) Africa by way of Egypt,²⁰¹ a fact which itself suggests that the painting depicts a confined, controlled area rather than a scene from nature. One monkey eats birds' eggs; behaviour which, it has been noted, is not characteristic of the animal in its natural surroundings but only in captivity.²⁰² Under the circumstances the habitat could hardly be wild. Platon did indeed suggest that the scene might represent a royal park (and Matz thought similarly about the Saffron Gatherer).²⁰³ The large variety of plants growing within close proximity in individual clumps also suggests a degree of human organization. The water-courses, so necessary to the cultivation of flowers and herbs in the Mediterranean climate, add to the overall impression of a controlled scene. It may be pertinent that the monkeys at Thera are also close to water (Pl. 45). Control of water is virtually implicit in The Landscape scene, for the gardener who so carefully transplanted the young palm suckers along the waterside must have been equally scrupulous in ensuring that the saplings would not dry out during the hot summers.

Fresco fragments of a bird, reeds, leaves and stems (papyrus?) near a 'blue pool' came from the South House. A fragment showing birds and reeds came from



22. Central panel of the Birds and Monkeys Frieze, House of the Frescoes, Knossos, as reconstructed by Cameron.

Katsamba, echoing the theme of the Partridge Frieze from the Caravanserai. Lily fragments came from Knossos, Ayia Triada, Phylakopi on Melos and Trianda on Rhodes; crocus fragments from Knossos and Palaikastro; and various plants are represented in the paintings from Ayia Irini, Kea.²⁰⁴ None of these is sufficiently complete to enable us to know whether the plants are growing naturally or are cultivated; only in the Theran Landscape frieze is there direct evidence of cultivation in the palms. But plants such as lilies and crocus, which were prized for their decorative, religious or commercial value, are likely to have been planted.²⁰⁵ At Amnisos, the arrangement of lilies and iris and reeds in two fresco panels suggests decorative borders within a formal garden, for the iris plants grow from a built stepped base.²⁰⁶ Various vegetables and herbs were, of course, cultivated in the Aegean (and are referred to in the Linear B texts) and some may well have been planted in a garden setting.

The first written documentation of gardening in the Aegean, in Homer, presents a sophisticated picture of water-supply and irrigation for the cultivation of fruit trees, vines and vegetables, which confirms that horticulture was no new occupation for the Greeks.²⁰⁷ The imagery contains the basic elements of the earlier (second millennium) Egyptian and Near Eastern gardens and parks (whether private, temple, royal or public):²⁰⁸ trees for shade and privacy; fruits, vegetables, herbs and spices for consumption; flowers for festivals and ceremonies; and, of course, the essential water-channels. Representations (most popular in the paintings of the 18th

dynasty)²⁰⁹ show us that the lay-out followed a basic formal arrangement. Fish and waterfowl lived in a central pond, papyrus and sedge-like plants were arranged around the borders, and beyond these were the fruit trees. Thus the basic elements of water, waterfowl, riverine plants and cultivated palm trees are those that occur in the Theran Landscape frieze. This is *not* to say that the imagery has been influenced either way; what it does suggest is a common model taken from the daily life of both regions: the orchard-garden. The different treatments are characteristic of the two areas: the Egyptian painter shows a formalized arrangement which could not be mistaken for anything other than man-made even if the figure picking fruit or watering the plants²¹⁰ were not there; the Aegean painter excludes human intervention and enlivens the scene with a sense of natural drama by incorporating the genre scenes of animal chase. If it were not for the very clear evidence of the cultivated palm trees there would be no way of knowing that this was not a 'scene from nature'.

It is in the broader, international context of these parks and gardens that we may think of The Landscape. The palm garden incorporated both useful and ornamental, indigenous and exotic plants. These were dependent on a perennial source of water and therefore on human control. It was a place which echoed nature but which was essentially man-made, a place in which animals and birds could also be found. While the garden is not the dominant theme of The Landscape frieze, it is the basis for the incorporation of further elements.

Cat

Central to the theme of The Landscape frieze is the predatory cat. It bounds energetically towards its intended prey, the geese, in an extended or 'flying' gallop, with tail raised, ears forward and jaw open (Pls. 51–2).

The cat is a rare element of Aegean iconography and its role within it appears limited. Identification of species is generally problematic. The blue coloration of the Theran animal is sufficient warning against certainty. As usual in these paintings it is the *change* of colour within a structure that is important as an identification clue, not the particular colours. In this instance the blue cat is flecked with grey–black spots running in approximate longitudinal rows, while the tail is ringed. Neck and body are elongated, but the head is compact and the snout short. The eye is rounded and, like the jaw, wide open in the intensity of the moment. Despite the eccentric coloration, the animal has been observed. Cats signal changes of mood with movements of their tail and ears. The raised tail and forward pointing ears are both signs of aggression applicable to the circumstances shown in the painting. The observation is incomplete, however, for although the position of the legs in relation to the body is plausible within either gallop or spring, the relationship of neck to body is not. A cat will raise its neck vertically from the body when seated, or when standing while startled, but not while in motion.¹ The intense concentration of a predatory cat while watching its prey is manifested visually by an out-stretched neck with head held low and ears pointing forward. The painter of the Ayia Triada Cat and Bird Fresco caught the moment brilliantly (Pls. 54, 182), but it was misunderstood by the Theran painter. The artist was apparently familiar with cats but only partially.

Despite one identification of the Theran cat as a

leopard,² this is without doubt one of the small cats of the genus *Felis*. Physical characteristics of proportion and movement and the long pointed ears and squat snout determine the identification. So, too, do the environmental and behavioural characteristics (leopards are nocturnal, forest dwellers, preying mainly on mammals). The cat bears some resemblance to a cheetah, but again the habitat is wrong.³

Visually, the closest animal to that in the painting is the serval, *Felis serval*, a medium-sized cat (c. 1 m long) of light build, with long legs, an elongated neck, small head and relatively large ears (Pl. 53). It has longitudinal rows of black spots on orange–brown body and limbs, and rings around the tail. It hunts a variety of prey, including birds which, since it is an exceptionally fast runner and high leaper, it can catch on the wing;⁴ and it invariably lives near water. All this accords well with the painting; and the activity of catching birds on the wing near water is shown on the inlaid dagger from Shaft Grave V at Mycenae (Fig. 24). Keller suggested that the Ayia Triada cat might be a serval (Pl. 54); and Snijder earlier commented on the large rounded ears of this animal (not cat-like but like those of the serval).⁵ An objection to the identification of the serval in Aegean art lies in its distribution. Nowadays, the species is only found south of the Sahara. It is, however, thought by some zoologists originally to have been indigenous to North Africa, and its distribution during the 2nd millennium B.C. is, of course, unknown.

There are three species of smaller wild cats on which the animal in the painting could have been based: the ancestor of the modern European wild cat, *Felis silvestris*; and *Felis lybica* and *Felis chaus*, inhabitants of the geographic regions immediately surrounding southern Greece.⁶ Mostly these are too similar for artistic differentiation, though *F. silvestris* is least like that in the

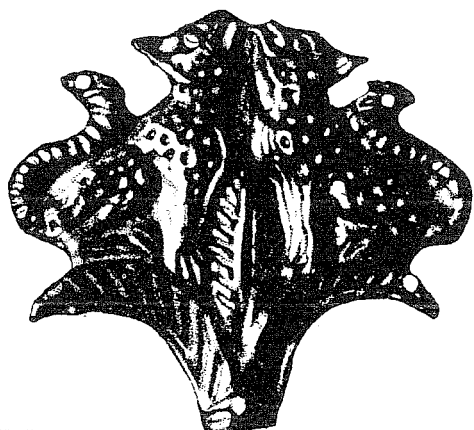
painting, with long hair, stripes, and a bushy tail. None has the elongated body, legs and neck of the serval or the cat in the painting and none is distinctly spotted. In 1905 Dorothea Bate reported the existence of a Cretan wild cat, *F. agrius*, as a species transitional between the North African *F. lybica* and the European *F. sylvestris*; and Evans took this to be the species represented in the Knossos fresco fragment of Pl. 184.⁷ However, small cats have a tendency to interbreed (including wild with domestic) and domesticated species often turn feral. Not all zoologists accept Bate's identification and Pocock claims that the specimen was a feral house-cat.⁸

Hutchinson believed that the Minoans brought domesticated cats from Egypt.⁹ But there is no certain

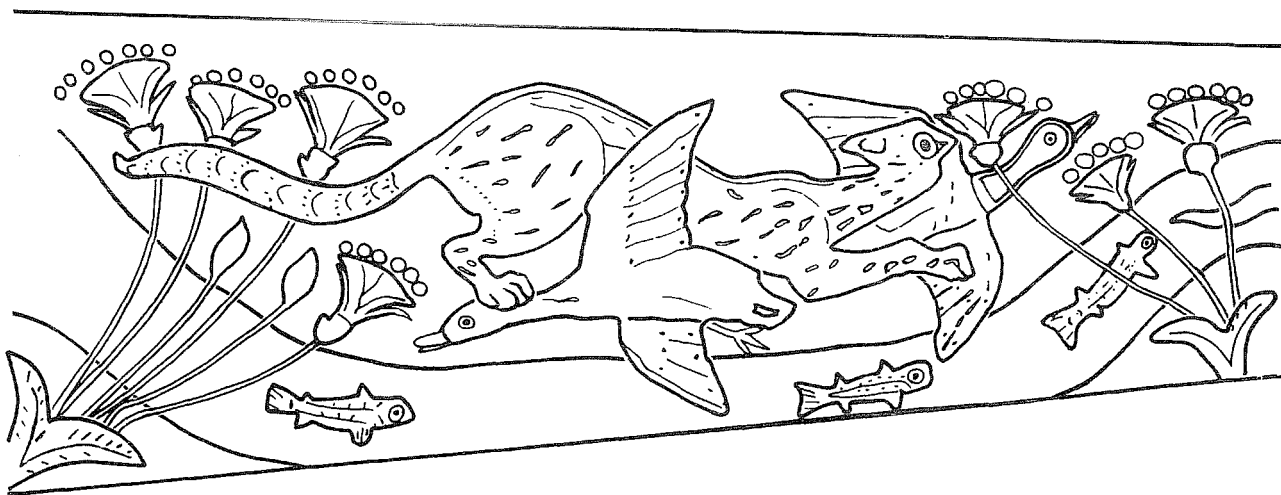
evidence either for domestic rather than wild cats on Crete in Minoan times, or for the importation of cats from Egypt at this early date.¹⁰ Faunal remains of cat are scarce in the Aegean and identification is problematic, for it is hard to distinguish between the bones of wild and domestic species.¹¹ Cat bones were found at Ayia Irini, Kea, and were reported by Fouqué on Thera itself, though in a disturbed context.¹² These are notable but uncommon instances and the evidence is insufficient to confirm domestication.

Unlike the lion, the cat does not occur in the Linear B tablets, although it was a sign in the Minoan pictographic script.¹³ The earliest iconographic instance of the animal occurs at Mallia, Quartier Mu, in a remarkable group of jug and two cups decorated in moulded relief with cats, trees and marine elements.¹⁴ With few other exceptions,¹⁵ most representations belong to the cat and bird genre scene of the Theran painting (see below Ch. 11).

A few representations of cats which are not part of the cat and bird genre, nonetheless incorporate elements of The Landscape painting. A cat with large ears appears on a three-sided seal carved with pictographic signs dated on stylistic grounds to MM IIb–IIIa.¹⁶ A sedge-like plant above the cat is an environmental associative element found in the Theran painting, though here it may function as a syllabic sign. On an inlaid dagger blade from Pylos, three felines with spotted body and ringed tail creep stealthily through a rocky landscape with reed-like plants.¹⁷ Cats (akin to *F. sylvestris*) are associated with palm trees on gold cut-outs from Shaft Grave III at Mycenae. Fig. 23 is one of a group of small gold ornaments (Pls. 65 and 77 are also of this assemblage), showing in this case heraldic cats perched on a stylized palm tree. The motif was mass-produced for the grave-owner,



23. Gold cut-out of cats on a palm from Shaft Grave III, Mycenae.



24. Detail of the cat and bird inlaid dagger from Shaft Grave V, Mycenae.

three identical objects having been found.¹⁸ From the same grave came the remarkable gold ornaments in Pl. 58. The scene contains elements familiar from the Thera paintings but juxtaposed in a different manner; the theme of chase in an exotic landscape is the same: lions, charging past palm trees, attack their prey. Belonging to the same group (lower left in the photograph) is a large cat with spotted body and ringed tail (perhaps a serval rather than a leopard as Karo thought).¹⁹ To my knowledge, the unusual association between cats and palms is confined to these examples from Shaft Grave III and to the Thera painting.

In the examples of the cat and bird genre scene, papyrus occurs amongst the Cretan flora in the painting from Ayia Triada (Pl. 183) (the only surviving instance of an individualized, local landscape) and on the inlaid dagger from Shaft Grave V at Mycenae (Fig. 24; Pl. 185). A river – the only remaining environmental detail of the Thera painting – occurs on the inlaid dagger and on an ivory comb from Rutsi near Pylos (Pl. 186). River and papyrus are also important elements of the Egyptian prototype for the genre (Pl. 187).

These images all associate the cat with a plant (or river); and all those plants – sedge, reed, palm, papyrus (and only those plants) – are found in association with the cat in the Thera Landscape painting.

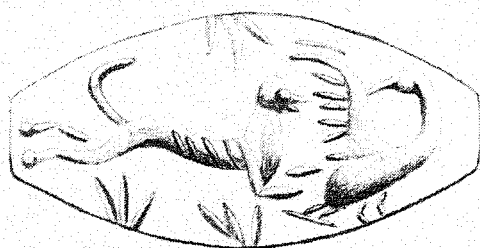
The Aegean cat exists within clearly defined contexts associated with specific elements of the natural environment. Equally, the role which the animal plays within these images is limited to that of hunter. In the Shaft Grave III cut-outs it is juxtaposed with the scene of lions chasing a large mammal (Pl. 58), but elsewhere the prey is always a bird – game bird in the painting from Ayia Triada (Pl. 182) and the fragments of a painting from Knossos (Pl. 184); waterfowl at Thera, on the Mycenae inlaid dagger (Fig. 24; Pl. 185), the Rutsi comb (Pl. 186) and on three Cretan sealstones (Figs. 25–7). On one of

the sealstones, the bodily movements echo those in the Thera painting: the cat is in a flying gallop with neck and tail raised, while the bird calmly preens its wing-feathers (Fig. 25). The other two seals have distilled the idea but turned it into a complex interweaving of shapes, bird becoming cat and cat becoming bird in griffin-like complexity (Figs. 26–7).

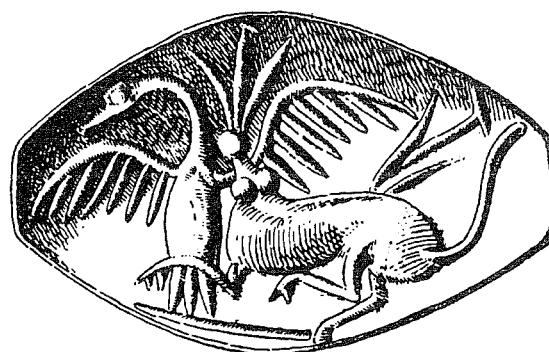
The details of these cats vary: that in the Ayia Triada painting and on two of the sealstones being monochrome and smooth (a non-naturalistic feature),²⁰ the others having spots represented by either small circular blobs (Figs. 23, 26; Pl. 58), dashes (Fig. 24 (Pl. 185); Pl. 186) or large leopard-like spots (Pl. 184). Most differences probably arise from artistic preference or aptness of application to the medium; but occasionally the occurrence of distinctions in a single work may suggest differentiation of species. (The inlaid dagger blade has cats with both bushy and narrow tails, like the European and North African wild cat or serval respectively.)



26. Jasper lenticular sealstone from Archanes.



25. Haematite amygdaloid sealstone from Crete.



27. Haematite amygdaloid sealstone from Merabella province, east of Knossos.

The animal was apparently known by the artists, not merely repeated as an iconographic motif within a genre culled from Egypt. Different characteristics of the feline chase are expressed: the ambush attack at neck or wing (Fig. 24; Pl. 186), and the silent stalk to be followed by a sudden pounce (Pls. 182 and 181). The signals of aggressive mood – tails raised, ears forward, snarl – are expressed effectively in the Ayia Triada and Thera paintings. The only inaccuracy in the method of hunting is in numbers. On the inlaid dagger and the Rutsi comb the cats hunt in pairs, and in the Ayia Triada painting in a group.²¹ Yet cats hunt singly to maximize surprise.

Thus, cats were observed but not always accurately. They were probably seen infrequently and played little part in the lives of the people. Their iconographic role was limited and generally lacking in profound or religious implications. The activity in which they are shown – hunting birds – is natural; and the environment in which they hunt is both applicable to their prey and reminiscent of southern lands in which the animal was a more common sight.

Lion

The lion is a recurrent feature of The Ship Procession painting. As a live animal, it strides along the hill-tops above the Departure Town, stalking its prey the fallow deer (Pls. 8 and 55). As a motif, it can be seen adorning the stern-posts of at least two (perhaps three) of the ships in procession (Pls. 173–4); while the hull of the flagship is decorated with painted lions (Pl. 56).

The lion (*Panthera leo*) stands, when full-grown, to an average height of one metre at the shoulder, and measures a little under three metres from nose to tail (Pl. 57). The lioness is somewhat smaller.²² The African is larger than either the Indian or now-extinct Persian and Mesopotamian lion. Colour (ranging from buff to yellow-brown) varies with both sub-species and gender. Manes are grown only by adult males, but not by all (heredity and habitat being determining factors). The generalized characteristics of the lions in the painting do not permit identification of sub-species. The proportions of height to length on the live lion in the painting are correct, and though too large for the surrounding town, the animal relates well to the men in the town below. Two shades of yellow are depicted. On the flagship, the lion on the stern (Pl. 174) and the best-preserved lion on the hull (Pls. 56, 10) are a dark tone of yellow ochre; both have a mane. A second hull lion, the lion on the stern of Ship 1 (Pl. 173) and the live hunting lion (Pl. 55) are lighter in colour; only that on the stern has the head preserved and it has no mane. It is unlikely that the artist was differentiating between sub-species and more probably we

should understand the distinction as one of gender. Female lions are generally lighter in tone than the male of the same sub-species. The animal has whiskers, and dark lips and nostrils, in contrast to whitish hair surrounding mouth and chin. These characteristics are apparent on the best preserved of the lions, on the hull (Pl. 56). The under-belly is lighter in tone than the back, but the differentiation on the hull-lion is exaggerated, and may have been influenced by the tones of deer (Pl. 73). Lines indicating hair along the belly of this lion may be part of this tone distinction, unless they are to be understood as a continuation of the mane. At the tip of the tail, the lion has a tuft of black hair, concealing a minute claw. Although none of the animals in the painting is well enough preserved to show this characteristic in detail, it is visible on most lions in Aegean art as a blob at the tip of the tail (Figs. 28, 30, 32–5); the same feature occurs on the lion-bodied griffin (Pl. 60). The structure of the head, body and legs of the animal is all faithfully portrayed by the artist. Even the ‘drooping lip’, held to be the trait of a particular workshop,²³ suggests the characteristic shape of the lion’s lower jaw.

Aegean artists seem to have been familiar with the appearance of both male and female lion and at least partially conversant with the life-style of the animal in its natural habitat. Invariably, the hunting lion is portrayed as male (Pls. 58–9, 66, 70, 72; Fig. 34), sometimes grouped in twos or threes, but more frequently alone. In reality the females do most of the hunting and they do so in groups. But this inaccuracy is understandable, for only recently have modern field researchers observed the distinction in roles. Throughout history – whether we think of Egyptian reliefs, medieval bestiaries, Islamic miniatures – the male lion has been supreme as an iconographic motif expressing the powerful hunter. The manner of hunting is correctly observed. Most large herbivorous animals are the prey of lions; antelopes and zebras are the usual preference, but in the Aegean woodland setting of the Thera painting, fallow deer would be acceptable. Lion hunting tactics rely on stealth and surprise, rather than pursuit. Either they hide and wait, or they stalk silently behind the animal – the moment chosen by the Thera artist (Pl. 8) – and then, with a sudden run, pounce on the back of the creature, seizing it by the neck and shaking it to exhaustion or death – a moment frequently chosen by Mycenaean artists (Pl. 58; Fig. 34). The Aegean artists’ portrayal of physical and behavioural characteristics suggests a knowledge of the animal rather than the mere importation of a motif culled from the visual repertoire of the age.

Today, the lion thrives only in central Africa; but until its recent extermination it was common throughout much of Europe, Africa, the Near East and Asia. During

the Bronze Age the lion would have had a wide distribution: an animal familiar to the Egyptians, the peoples of the Near East, Anatolia, and the Balkans. Undoubtedly it was not to be found striding on the small island of Thera; but there is no reason why the Thera people should not have been familiar with the creature. Those who travelled – the merchants, warrior-sailors, artisans and others – may have encountered the lion firsthand, possibly no further afield than the mainland of Greece. In the time of Herodotus lions were hunted in Thrace and Thessaly.²⁴ In the Troad, lion bones are reputed to have been found in levels VIII and IX at Hissarlik.²⁵ Evidence for the animal's existence in the Bronze Age has increased with recent discoveries. A lion's foot-bone was found in an LH IIIb context at Tiryns.²⁶ At Kea, two lions' teeth were found in an LM Ib/LH II context.²⁷ The latter do not, of course, suggest that the animals lived on the island; it is more likely that the teeth were imported for use as amulets, but their appearance on Kea shows that the islanders had associations with a region in which lions could be found.

Once artists and travellers who had seen the animal had absorbed the details of its appearance and its hunting habits, these details then became part of the iconographic tradition, so that the image of a lion could be applied to local settings. The image is then no longer a literal statement (any more than those are real lions on the ships) but one which has been used to evoke a particular scene or meaning.

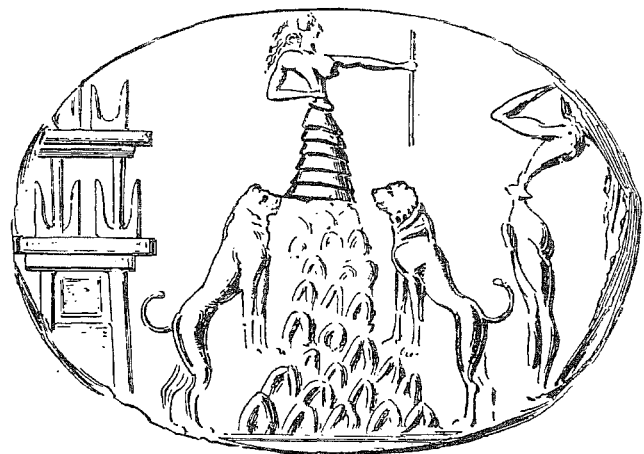
The rarer the animal, the more likely is it to be endowed with symbolic meaning. Those which are seen only as images – the universal inventions of unicorn, dragon and griffin, or the multifarious local monsters of the world – are redolent of mythic association. If the creature is not seen in everyday life its role must be appropriate to its form and to its rarity. There is less inclination to attach symbolic meaning to an animal whose function is domestic or who is a familiar feature of the local environment, unless, of course, the religious concepts of the culture are animistic. Such concepts did exist in the ancient world (Mesopotamia and Egypt were rich in deities and monsters whose visual forms were culled from the local fauna) but there is no evidence to suggest this for the Aegean.

Invented monsters are relatively uncommon in Aegean iconography. The artists of the Zakros sealings experimented with great energy,²⁸ but otherwise there are only three recurrent mythical creatures, the griffin and sphinx (imports from outside the Aegean) and the daemon (the minotaur being less common than legend would suggest).²⁹ But the rarer creatures of the real world could also be endowed with symbolic significance, and, as we shall see, the exotic and unapproachable lion embodied

much the same significance as the mythical lion–bird griffin.

The relationships between griffin and lion emerge in the period under study – the beginning of the Late Bronze Age – for the griffin itself was a relatively late import to Aegean imagery. Lions first appear on Early Minoan sealstones,³⁰ without specific roles. But it was only in the Shaft Grave era that the animal developed as a popular image; for though both Cretan and mainland artists portrayed the lion, it was the Mycenaeans who appropriated its symbolic force. In the Late Bronze Age, the lion was invested with clearly defined roles and relationships. Whatever the direct inspiration for the new meanings, there is no doubt that they share much in common with both Near Eastern and Egyptian imagery,³¹ the two major roles attributed to the lion being: (1) as an heraldic animal, (2) as hunter or hunted. The vast majority of Aegean examples which have survived are on sealstones, a medium best suited to small groups of figures (twos or threes), its limited surface area being unable to accommodate complex narrative. When the animal appears on larger surfaces, the glyptic scenes are repeated with little elaboration on the theme.

The heraldic lions may protect or be conquered by a central figure. In their protective role, they guard the entrance to the Lion Gate at Mycenae³² and occur in the wall paintings from Pylos.³³ Their most common occurrence is in glyptic scenes, for example in the Knossos ring-impression drawn in Fig. 28.³⁴ On some, the central figure holds a so-called 'snake-frame' – recently reinterpreted as horns – on her head.³⁵ In one instance, a sealing from Pylos, the heraldic role is reversed and

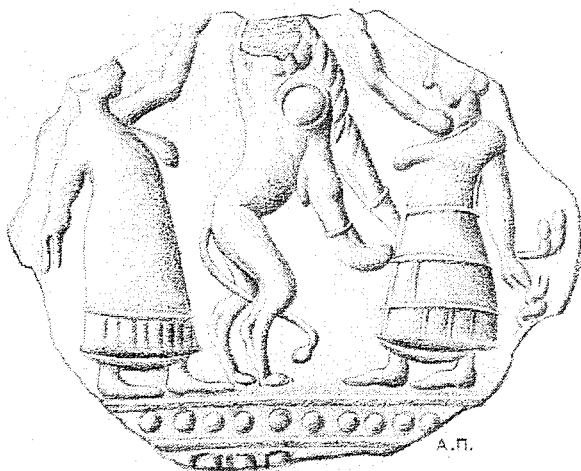


28. Composite drawing made from ring-impressions found in a deposit by the Central Shrine, Knossos.

figures flank a lion (Fig. 30, compare Fig. 29). The figures wear the long wrap-around garment of the Theran Priestess (Pl. 180) and behind one is part of a 'snake-frame'/horns (right). (A female figure with heraldic lions also occurs in Near Eastern iconography,³⁶ as does a male figure grasping two flanking lions, another glyptic scene adopted in the Aegean.)³⁷ In these scenes, the central figure may be protecting or controlling the lions (Mistress of Animals) or the animals may be protecting her (guardians of the god or gateway). The shift between active and passive is subtly manoeuvred.



29. Cornelian lentoid sealstone from Mycenae.



30. Sealing from Pylos.

But if the lion protects, it is through its strength as a hunter that it derives this guardian force. The two roles are interrelated. Lions attacking their prey is largely a Mycenaean theme, although it was not unknown to the Cretans.³⁸ It was an almost obsessive theme of sealstones, where the prey is deer, bull or goat, and is common in ivory carvings (Pls. 66, 70, 72).³⁹ It was a theme which may have developed at Mycenae, for there are numerous and varied examples in the iconography of the Shaft Graves, the best known of which is the lion-hunt dagger from Shaft Grave IV (Fig. 34). On this, and on a stele from above Grave V depicting a lion chasing deer and a chariot scene with fallen warrior,⁴⁰ the hunting activities of man and lion are juxtaposed. Also from Grave V, gold plaques from a wooden box are embossed with designs of lions chasing red deer in a setting of palm trees (Pl. 59) and lions attacking fallow deer with the skull of a bull hovering in the space above.⁴¹ The gold inlays from Shaft Grave III in Pl. 58 depict a pride of lions attacking a bull.

The relationship between men and lions is one of mutual strength. If the lion conquers all other beasts, the ultimate test of a man's courage must be to conquer the lion (a principle well known to the modern Masai). Hence there is a strong iconographic connection between lions and warriors. Lions accompany a warrior with a shield (Fig. 31) and a figure with a spear on two sealings from the Temple Repositories at Knossos, and an archer on a sealing from Ayia Triada.⁴² In these instances the lion may be seen as the guardian of the warrior. Yet the warrior, perhaps so as to appropriate the power of the

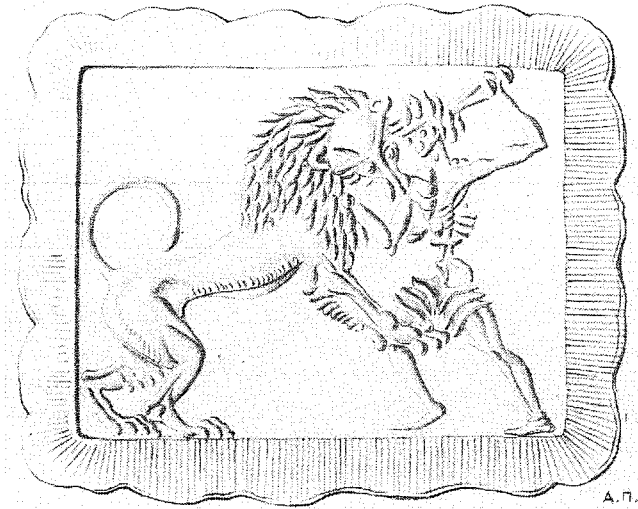


31. Sealing from the Temple Repositories, Knossos, MM IIIb.

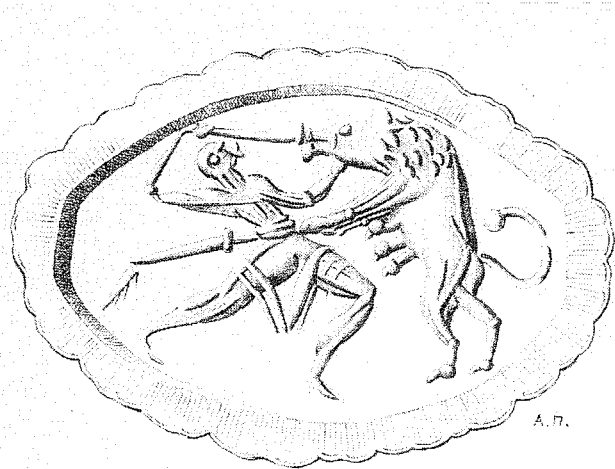
lion, must overcome the animal itself. In Figs. 32–3 and in Pl. 69 the contest between man and lion is more symbolic than plausible; Evans' evocation of Herakles and the Nemean lion was apt in relation to such scenes.⁴³ But a number of seals show a lion hit by an arrow⁴⁴ and the confronting lion on the inlaid dagger has been similarly wounded (Fig. 34). Hence Evans and others argued that the scene represents a real Mycenaean lion-hunt⁴⁵ (a

sport enjoyed in northern Greece in Classical times)⁴⁶ while Mylonas, arguing in relation to the scenes on the sculpted stelai from Circle B, suggests men attacked lions in retaliation for the plunder of their livestock.⁴⁷ Certainly the scene on the dagger is more plausible than the isolated duels, yet the iconography suggests a more complex significance than the simple depiction of an event.

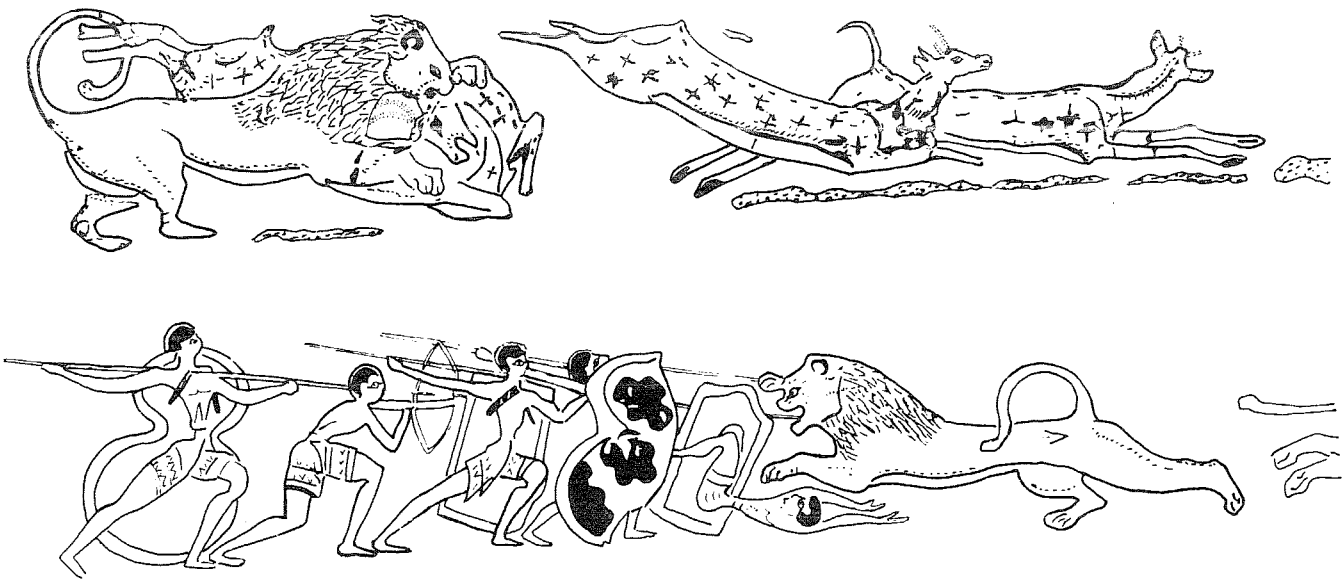
On one side of the dagger the lion attacks its prey, the



32. Gold bead-seal from Shaft Grave III, Mycenae.



33. Amethyst amygdaloid sealstone from Grave Δ, Pylos.



34. The lion-hunt dagger from Shaft Grave IV, Mycenae. Details of the scenes on the two sides.

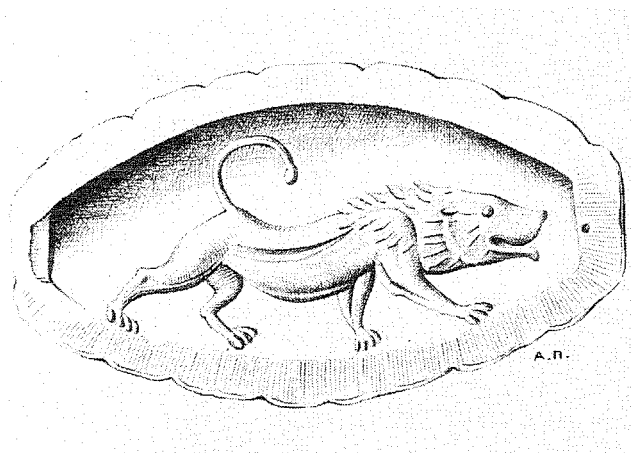
Mediterranean deer;⁴⁸ on the other side the lion is itself attacked by its adversary, the Mycenaean warrior (Fig. 34). This relationship is not one of sequence, as Mylonas suggested for the stelai; the men are not protecting the deer for the deer is not a domestic animal (in other scenes, men hunt deer).⁴⁹ The relationship is rather that of a parallel between the strongest power in the animal world and man the hunter. That the scenes are on a weapon is no coincidence. Lions stand by, perhaps protect, men with weapons (Fig. 31) and are, in turn, attacked by men with weapons (Figs. 32–3; Pl. 69). By adorning the weapon itself with such scenes, the warrior may have wished to infuse it with potency. From the same grave, IV, came another dagger inlaid with lions,⁵⁰ and a gold-plated sword pommel decorated with a lion and lioness attacking a leopard.⁵¹ An ivory pommel from Grave IV has the design of four lions with heads joining at the centre.⁵² From Circle B, Grave Δ, came a gold sword hilt whose ends take the form of confronting lion heads.⁵³ From the LM II Chieftain's Grave at Zapher Papoura near Knossos came a magnificent gold sword hilt with scenes of a lion stalking a wild goat and confronting lion and goat.⁵⁴ Perhaps it is more than coincidence that in two other warrior graves near Knossos, tomb 99 at Zapher Papoura and a grave at Ayios Ioannis, there were in each two sealstones representing, on the one hand, a recumbent lion and, on the other, a lion attacking a bull.⁵⁵ The motif on a sealing used to secure the chest which contained the Sword Tablets at Knossos was also that of a recumbent lion.⁵⁶

Further contextual evidence for the significance of lion-imagery in association with warfare comes from Grave IV at Mycenae. As well as the three weapons decorated with lions, the grave contained the well-known

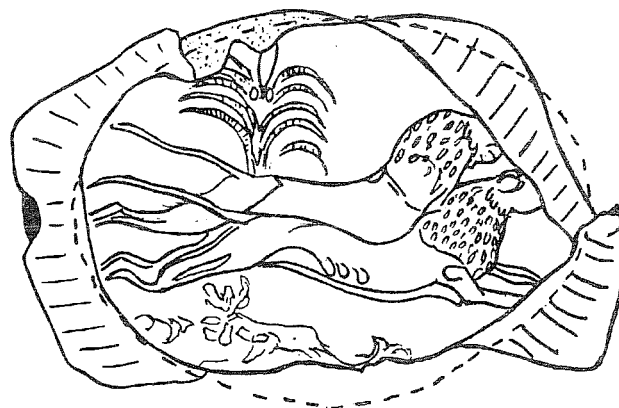
gold lion's-head rhyton, found near the warrior's head.⁵⁷ Such rhyta may be suggested in the disembodied lion heads on a ring from the Mycenae Acropolis, associated with a miniature figure of a warrior and the main scene of an open-air votive offering.⁵⁸

It is in the context of the hunting theme that we should view the lion stalking three fallow deer in The Ship Procession painting. Here is the basically Mycenaean scene of hunter and prey, though the lion stalks (cf. the movements of the lion on the seal from Vapheio in Fig. 35) rather than actually attacks in the manner usually shown by Mycenaean artists. Contextual environment also differs from the norm. Lions are generally seen against two settings: palm trees and rocks. The naturalistic Mediterranean woodland of the Theran painting is seemingly unique. Examples of lions with palm trees have been noted above (p. 27) and are represented here by the inlays from Shaft Grave III in Pl. 58, the Zakros sealing in Fig. 36, and the Mycenaean wooden pyxis lid found at Saqqara shown in Fig. 41.⁵⁹ On the lid, the familiar elements of lion and griffin as hunter, ungulates as prey, and palm tree as setting are present in juxtaposition. Similarly, the Shaft Grave III inlays in Pl. 58 contain the elements lion, large cat, prey, palms. All of these recur in the Theran miniatures as juxtaposed elements in hunting scenes (a point to which we shall return in considering the overall theme of the West House paintings). Palm trees occur not in this, but in the preceding scene, and the theme of lion and deer has been transposed into an individualized view of a Mediterranean woodland. This may have had its distant inspiration in events from further north in mainland Greece, but its role within the painting is as a minor iconographic genre scene.

Beyond this role, the Theran painting affords a unique



35. Cornelian amygdaloid sealstone from Vapheio, LH I–II.



36. Sealing from Zakros, LM I.

view of the lion in a remarkable context: as an emblem decorating ceremonial ships. There is no other instance of this striking usage known from the Aegean, although, as we shall see, it is not unique in the wider context of the ancient world.

The lions on the ships do not have a naturalistic function nor do they belong to a genre type. Yet their appearance as a ship's emblem is far from arbitrary and it is no coincidence that they occur in the same painting as the lion chasing deer on the land. The two major roles appropriated by the animal in Aegean iconography derive from a single characteristic: power of survival. On the one hand, the heraldic scenes evoke the sanctity of the animal as a protective guardian, while on the other hand the hunting scenes express the force of the lion and the ultimate power of a warrior society able nonetheless to conquer this heroic creature.

Lions as an adornment of a ship occur in only one other context of which I am aware: on the prows of the Egyptian ships in the Battle with the Sea Peoples represented at Medinet Habu, some 300 years later than the Theran painting (Fig. 84). The lion's head projects from the prow, and in its jaws is the diminutive head of an Asiatic (inset). This emblem, presumably carved out of wood, elicits an obvious interpretation. The lion, who conquers all in the animal world, is a symbolic force evoking the power of the Egyptians to conquer their enemy. The animal was a symbol of valour throughout Egypt and Mesopotamia, in the former of the god and king, in the latter of heroic men.⁶⁰ In both Near Eastern and Aegean areas an analogy was drawn between the power of the lion in the hunt and the power of the warrior in warfare. In spite of recent attempts to show that the lions of the Shaft Graves are an element culled from northern nomadic cultures rather than from the south,⁶¹ there can be little doubt that this relationship existed in Mesopotamia and Egypt before it existed at Mycenae or on Thera. A further suggestion that the Mycenaeans' familiarity with lions came largely from the south and east comes from the word itself as it occurs in Linear B. The Mycenaean Greek *lewōn* is a loan word from the Semitic language.⁶²

If the Medinet Habu ships are the only other surviving visual example of the association between lions and ships so forcefully expressed in the Theran painting, there are literary instances in which the metaphor is clarified:

... At the Boat's keel, the boat of Enki,
A raging tempest, attacking,
At the bows like a jackal the water devours,
Against Enki like a lion it rends the stern.
(from a Sumerian poem)⁶³

I caused the Nile mouth to be prepared like a strong wall with

warships, galleys and coasters, equipped, for they were manned completely from bow to stern with valiant warriors, with their weapons. The militia, consisting of every picked man of Egypt, were like lions roaring up on the mountain tops.

(from the records of Ramesses III)⁶⁴

As stout-hearted lions gather their strength, and come rushing upon the arms and weapons directed against them, so the waves, letting themselves go before the risen fury of the winds, flung themselves on the defences of the ship. (Ovid)⁶⁵

In the Theran wall painting we may assume that the lion images have been applied to the ships so that the vessels might be infused with their power and thus be able to conquer the waves, and the warrior-occupants of the ship may be inspired with the valour of the 'king of beasts'.

Griffin

In the full stretch of its gallop, the winged griffin bounds past the palm trees along the edge of the river bank (Pl. 60). A deer on the other side of the river (a pictorial device to bring the animal into the lower plane of the picture) is the prey. Amongst the faunal elements of The Landscape painting, the large figure of the griffin plays an important part in the dramatic action.

A griffin is a combination of elements from two living creatures – lion and bird of prey – to form a composite being with its own identity and a specific iconographic role which reflects the characteristics of those parent forms. The body is that of a slender lion, the legs attenuated but recognizable, the tail ending in the leonine clump of dark hair. The head and massive wings are those of a bird of prey. The head of the Theran griffin has not been preserved and, elegant though the reconstruction is, it is best to think away this part during analysis. The wings are decorated in a typically Aegean manner, with spirals on neck and upper wing, and notched plumes.

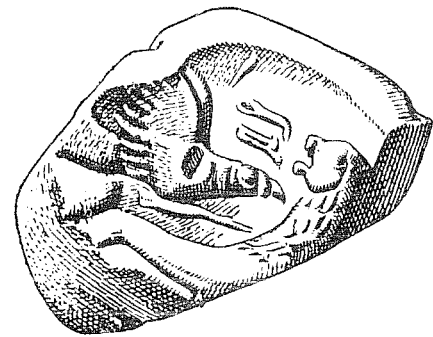
In Old and Middle Kingdom Egyptian representations of griffins, the bird is recognizably a hawk (Pl. 62). But it is less clear which bird inspired the Aegean griffin. Evans' identification of the eagle⁶⁶ may be correct, but if so the representation leaves much to be desired. The raised bony crown of the white head and the long flexible neck on many griffins are more suggestive of a vulture. Of the species present in southern Greece (Lammergeier and griffon vulture all year, Egyptian in summer),⁶⁷ the one whose shape and coloration (pale head, two-toned wings) most suggests the features of the eponymous griffin is, appropriately, the griffon vulture (*Gyps fulvus*) (Pl. 61). It can be seen on cliffs and in high rocky country throughout much of the Mediterranean and Near East, and Aegean artists would doubtless have been

familiar with its massive form. On the Theran griffin, the angular line and sharp change of direction of the wing-span describe the vulture's wing when seen in full flight, from below, or in the rarer perching pose of Pl. 61. (This frontal view with full span of wings was that chosen by Egyptian artists in depicting the protective vulture-goddess Nekhbet, Pl. 62 above.) The position in the Theran painting is typical of Aegean griffins, though Aegean artists occasionally attempted a more ambitious rendering, with head turned backwards to look over the shoulder, enabling the wings to be out-stretched on either side (e.g. Pl. 66).⁶⁸ Lion and bird are, then, the real-world inspiration for the griffin; but obviously that is only a small part of the story.

This hybrid creature was already an established image in Syria and Egypt at the time of the Theran painting. Details of form and meanings varied according to region but, along with the sphinx, the griffin achieved international fame. Of all the myriad monsters and fantastic beings in the imagery of the ancient world, only the griffin and related sphinx captured the imagination of the Aegean peoples. The griffin's power to captivate the mind has not lessened with the years, and a number of monographs have been written on its development as a motif.⁶⁹ Here, the emphasis will be on the iconographic role of the creature, with some preliminary comments on distribution.

Winged mammals, including griffins, make their appearance in Mesopotamian imagery of the fourth and third millennia,⁷⁰ and the griffin occurs sporadically, in particular on Akkadian cylinder seals and in Egypt (e.g. Pl. 62), up to the 16th century when the image appears in the Aegean. Evans was under the impression that the area from which it came to the Aegean was Egypt,⁷¹ but Frankfort stressed Syria.⁷² Both areas contributed to the interaction of ideas current at the time, but Frankfort's arguments for Syria as the immediate source are more cogent: one of the earliest examples in the Aegean – in a

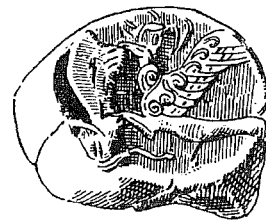
Knossos miniature⁷³ – occurs as a textile decoration and in association with a female sphinx; the latter was a Syrian derivative of the Egyptian sphinx, and textiles an export of Syria. Among the earliest griffins in the Aegean are those on the seals and sealings from Phaistos⁷⁴ (MM II) and Ayia Triada (LM I), near the southern port of Kommos, and on the sealings from Zakros (LM I), whose strategic position made it the natural repository for eastern ideas filtering through to the Aegean.⁷⁵ The Zakros sealings are a product of a vivid local imagination. Many incorporate established Aegean imagery, others initiate new ideas, and still others adapt or are inspired by ideas more at home on the sealstones of the Near East. In this last category come the numerous hybrid monsters, many of whom are winged with mammalian legs.⁷⁶ Comparable monsters occur on sealings from Ayia Triada.⁷⁷ Five depict griffins,⁷⁸ Fig. 38 being one of the earliest examples of the creature's association with lions. Dessenne cites eight griffins on the sealings from Zakros.⁷⁹ Fig. 37 shows the animal in front of a palm tree, and in Fig. 39 it attacks a lion, familiar roles which, together with its form, make the Zakros griffin a



38. Sealing from Ayia Triada, MM IIIb–LM Ia.



37. Sealing from Zakros, MM IIIb–LM Ia.



39. Sealing from Zakros, MM IIIb–LM Ia.

creature of a collective rather than an individual imagination.

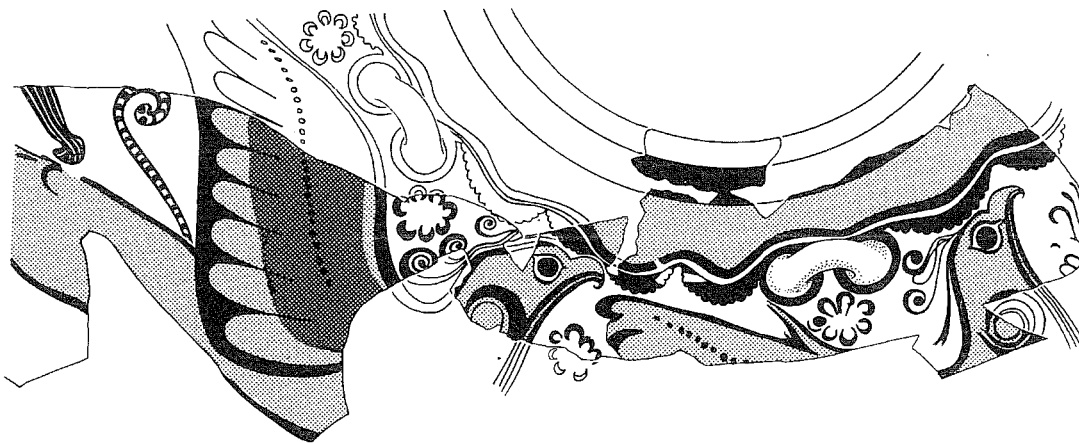
The Theran griffin shares several characteristics with those approximately contemporary or slightly earlier from Crete. The 'notched plume' pattern, which was applied to a variety of surfaces in differing contexts at this period,⁸⁰ occurs on the Knossos miniature griffin, but is otherwise surprisingly infrequently applied to griffins' wings⁸¹ despite the fact that it is an ideal device for representing the wing pattern of a bird of prey. (The upper wing-feathers of both griffon vulture and golden eagle, amongst others, are two-toned, thereby appearing to be individually delineated as they lie in horizontal rows of short curved triangles.) Other shared characteristics are: spirals (Zakros, Fig. 37); flying gallop, and association with a lion (Zakros and Ayia Triada, Figs. 39 and 38).

In the Cyclades, the griffin first occurs on MC III pottery from Phylakopi (Pl. 64).⁸² From Thera, a sherd with a griffin-like beak compares with one from Phylakopi.⁸³ A Theran composite, a sphinx with squat, bird-like head, occurs on a lentoid sealstone found in Δ 16.⁸⁴ When the Akrotiri inhabitants abandoned their houses they must have taken their valuable possessions with them, and one sealstone is surely as inaccurate in indication of their material culture as the lack of jewellery and precious metals. Griffins are most frequently depicted on gylptic surfaces and if Thera produced other seals they may have included this motif. In wall paintings the creature is rarer, yet Akrotiri has provided two important examples. In *The Landscape* the griffin takes a primary role. In *The Crocus Gatherers* from Xesté 3, a griffin takes a major supportive role: a female figure has a blue monkey before her and a griffin behind. This 'Mistress of Animals' with a griffin beside her, though a familiar motif on LM I–LM III seals,⁸⁶ is unique amongst wall paintings.

A large jar from Ayia Irini decorated with griffins in flying gallop shows that the Keans, too, were familiar with the image at the beginning of the Late Bronze Age (Fig. 40).⁸⁷ The creatures have spirals on the neck and a combination crest-spiral dangling back from the head. This is comparable to the curl on one of the Melian griffins, as are the heads, with small crown, large eye and hooked beak. These characteristics should be taken into consideration when regarding the griffin in *The Landscape* painting. The modern reconstruction of head and neck imitates the griffins of Mycenae rather than those of the Cyclades.

At Mycenae, griffins occur in Shaft Graves Δ, III, IV and V. From Grave Δ came a sword with lion hilt and blade engraved with pairs of griffins in flying gallop (above, n. 53). In Grave III there were two griffin types amongst the gold cut-outs: outstretched in flying gallop (Pl. 65) and couchant with reversed head in preening pose.⁸⁸ The type is close to the Theran griffin, with wing divided into lower flight feathers indicated by parallel lines and shorter, upper coverts indicated by spirals. On a gold pin-head from Grave IV, two griffins gallop around one surface and two lions around the other.⁸⁹ From the same grave came a Type A sword with griffins in flying gallop down each side of the blade, comparable to the sword of Grave Δ.⁹⁰ Grave V contained a dagger inlaid with griffins in the exaggerated flying gallop so appropriate to these narrow surfaces.⁹¹ The griffin's popularity was to grow throughout the Mycenaean era, becoming an important component of LH III iconography, particularly on ivories and above all on sealstones, where they exist as isolated images devoid of context. They are usually couchant, the flying gallop being rarer when the image is isolated.

The solitary image may still have had significance for the craftsman and the owner of the seal, but it is only



40. Griffin design on a jar from Ayia Irini, Kea, L.C I.

through observing its context that we are able to decipher its role in the imagery of the time. In *The Landscape* painting the griffin is a component of a series of predator–prey relationships. The predator is, in each case, feline – cat, griffin, lion – and the prey of griffin and lion is in both cases fallow deer.

Throughout the Late Bronze Age, an analogy between lion-bodied griffin and lion is evident in their dual roles of hunter and protector. Strangely, the earliest mainland griffins – in the Shaft Graves – occur as isolated images, despite the established hunting role of the Shaft Grave lion. Thera provides one of the earliest examples of both the griffin's hunter and protector roles in the paintings of the West House and Xesté 3 respectively. It is hard to know whether we should think of the Thera artists as innovators in this (as in other) instances, or whether the issue has become confused by an arbitrary survival of evidence.

Elsewhere in the Cyclades griffins occur, as at Mycenae, isolated and without association. On Crete, the majority of early griffins are treated with the same indifference to context, but a few parallel the role in the Thera painting and anticipate later Mycenaean art. One of the sealings from Ayia Triada, Fig. 38, and two from Zakros, Fig. 39,⁹² juxtapose griffin and lion. In two of these three, the griffin attacks the lion. On a sealing from Knossos a lion attacks a griffin.⁹³ The two creatures do not, of course, attack one another in the Thera painting, they are equal forces involved in the same activity, after the same prey: deer (or bull). The battle between them is comparable to the shift of emphasis observable in lions: lions attack deer or men; men hunt deer or lions.

Although in the Shaft Grave images the griffins do not attack prey, they are nonetheless associated with lions (who do). On the sword from Grave Δ lions adorn the hilt and griffins the blade; on the pin-head from Grave IV, lions and griffins decorate alternate surfaces. This association between the two beasts (whose real and imaginary status was probably not as clearly defined as it is for us) continued throughout the Late Bronze Age and is reflected in the parallel nature of their roles.

The analogy is well brought out on the ivory pyxis from the Athenian Agora (LH IIIa, c. 1400) shown in Pls. 67–8, and the wooden pyxis lid found at Saqqara (of the same or slightly earlier date), Fig. 41. The wooden lid is separated into four compartments by rock-like divisions, each containing an animal; these compartments are conceived as groups of two by the directions in which the animals face. One half contains the theme of a lion with two antelope or deer; the other half parallels the theme by changing predator and prey to griffin and goat. The griffin–goat areas incorporate palm trees as the setting, a plant which is more frequently associated with

lions (cf. Fig. 36; Pls. 58–9 and p. 27 above) but which recurs in association with the griffin in the Thera Landscape painting, on one of the sealings from Zakros (Fig. 37) and in the Throne Room at Knossos (above, p. 24, n. 77). The ivory pyxis and lid is similar in theme though different in conception. On the lid (Pl. 67, right) the griffin attacks two animals – fallow deer and another ungulate – in a complicated tangle of bodies. Around the surface of the box itself, two griffins attack their prey. As on the lid, each griffin has two ungulates to contend with; the species is difficult to determine, but one (lower left in the drawing) has the distinctly palmated antlers of fallow deer. Above these scenes of carnage are two handles each in the form of a lion. In front of at least one of the lions (upper right in the drawing) is a small doe or fawn craning its neck back towards its enemy. In the Thera paintings, lion hunts male fallow deer, griffin hunts doe or fawn. On the ivory pyxis, the griffin hunts the stag, the lion the doe or fawn.

The interchangeable roles of griffin and lion extend to their relations with human or divine figures. Both appear in heraldic roles, on seals and in wall paintings.⁹⁴ Both creatures may be jointly associated with either male or female figures;⁹⁵ and both are occasionally shown in the mythic capacity of drawing chariots.⁹⁶

The study of lions has demonstrated the animals' link



41. Wooden pyxis lid found at Saqqara in Egypt, Mycenaean, LH IIIa, c. 1400(?).

with warfare through an association of ideas concerned with prowess. A similar role pertained to griffins. On one of the cylinder seals found at Thebes the conquering hero holds two lions by the tail while a griffin attacks a stag,⁹⁷ and on another a hero stabs a lion while a griffin attacks a stag.⁹⁸ Lions and griffins are mutual antagonists, for on an ivory from Delos the lion attacks the griffin (Pl. 66),⁹⁹ while on a fragment of faience from the House of the Shields at Mycenae the griffin attacks the lion.¹⁰⁰ Just as the lion-hunt dagger parallels the valour of men and beasts on the two sides, so does an ivory mirror handle from Enkomi (Pls. 71–2). On one side a lion attacks a bull, on the other side a warrior attacks a griffin. The theme of interrelations between griffins–lions–prey–warriors is particularly prevalent on ivories from Cyprus (LC III). The mirror handle from Enkomi, tomb 24, expresses the relationships through direct juxtaposition, while two other ivory handles reflect the ideas individually. One, from Kouklia, repeats the warrior theme of the Enkomi handle (Pl. 69). The composition is so close that the handles should be companion pieces, perhaps by the same artist. On the Enkomi example the warrior fights a griffin, on the one from Kouklia, a lion. On a third mirror handle, from Enkomi tomb 73, a lion attacks a bull (Pl. 70).¹⁰¹ Also from Enkomi tomb 24 came an ivory pyxis fragment depicting a helmeted warrior attacking a griffin.¹⁰²

The connections between the two creatures and warriors is by no means confined to Mycenaean imagery of the eastern Mediterranean. The ivories from the Artemision at Delos, of which Pl. 66 is an example, included the following themes: lion with griffin, lion with bull (prey), griffin with deer (prey). From the same location came the well-known ivory warrior.¹⁰³ The ivory from Midea depicting a man with a griffin on a lead appears to have a companion piece in an ivory showing a lion and a bull.¹⁰⁴ The faience lion–griffin fragment from the House of Shields at Mycenae (n. 100) came from a context highly suggestive of the warrior stratum of society. Two other faience fragments show helmeted warriors (Pl. 152), and the building, of course, takes its name from the large number of miniature ivory figure-of-eight shields.¹⁰⁵ From the same building came a sealing showing a man wrestling with a lion.¹⁰⁶ These probably date to LH IIIb, but the idea was in embryo form, at least, during the 16th century. Just as lions commonly adorned weaponry, so of the six examples of griffins from the Shaft Graves, three are on swords or daggers. Obviously not every motif that decorated a weapon was symbolic of the warrior's power (lilies and dolphins would be odd symbols of the fight), but the large number of Shaft Grave weapons decorated with lions and griffins and the numerous associations listed above suggest that in this

instance the imagery and the surface are related in intention. Like the lion, the griffin may have been a protective emblem for warriors. By sympathetic magic the warrior may have wished to absorb the strength and speed of the feline killers, even if it involved the legendary killing of the creatures themselves (Pl. 71) as a means of usurping their power. In a wall painting from the Cult Centre at Mycenae (Pl. 157) a female warrior (deity?) holds a miniature griffin, as though clutching a lucky charm.¹⁰⁷

These associative ideas are not confined to the Aegean; and although it is prudent to assume that the export of images does not necessarily imply the export of ideas, in this case the interconnections are strong enough to suggest mutual exchange. Of the numerous meanings attached to the figure of the griffin in the Near East, several parallel those observed for the Aegean: as protector in a couchant guardian attitude; in association with the sacred tree (palm ?); flanking totemic columns; yoked to a chariot as a vehicle for deities; attacking animals and warrior kings; attacked by armed warrior gods.¹⁰⁸ The Egyptian griffin is less varied in context and less complex; it had a specific role as the defender of the king against his enemies, or as a manifestation of the king as conqueror. A pair of Middle Kingdom pectorals express the idea: on one, two griffins, wearing the sacred Atef crown of gods and royalty, conquer Asiatics and Nubians; between them a cartouche contains the name of Sesostri III (Pl. 62). On the other, the king himself conquers the foreigners.¹⁰⁹ Similar precious objects of the reign of Ammenemes III and IV were sent to the prince of Byblos on the Syrian coast,¹¹⁰ and such ideas (without the royal connotations) could have filtered to the Aegean from there.

In the interchange of ideas current at this time, it has often been noted that after the griffin found its way to the Aegean from either Egypt or Syria it was re-imported to these areas in a new Aegean guise. Mitannian sealstones provide a number of examples of Aegean-style griffins.¹¹¹ From Egypt, the axe-blade of Ahmose (Pl. 63), close in date to the Thera painting, shows the king conquering his enemy; below is a large couchant griffin with the specifically Aegean characteristics of upraised wings, spirals on neck and upper edge of wing, a crested head, and the beak of a vulture or eagle. This is a new type in Egyptian iconography.¹¹² On the axe-blade the Aegean-style griffin is designated 'beloved of Menthu', the god of war. The Egyptian griffin had long been depicted as the attacker of the king's foes or as a personification of the king in battle, but the designation 'beloved of Menthu' as applied to a new, Aegean-style griffin is significant, for the role would have been comprehensible in both regions.

During Late Helladic III the ivories from Cyprus, illustrated in Pls. 69–72, provide an important link between

the iconography of Mycenaean Greece and the Mycenaean-inspired iconography of the coastal regions of the Near East. The connection between griffins, lions, and warriors is seen in a number of ivories from the Levant.¹¹³ Schäfer, in analysing the Cypriot ivories, concluded that they were probably made locally under mutual influence from east and west.¹¹⁴ The imagery expresses an idea in international use linking the hunting prowess of lions and griffins to the abilities of warriors. Perhaps the ivories of the 13th century illustrate a mythic tale; but the early Mycenaean imagery suggests a more general symbolism. The griffin is not, in the earlier period, shown fighting against a warrior; instead it adorns his weapons, protects, and provides an example through its legendary hunting prowess.

It is probably in this latter sense that the griffin in *The Landscape* painting is included. Like the lion in the adjacent painting, it is a hunter. In the light of the preceding discussion, it seems likely that the juxtaposition of these two images with those of warriors is not coincidental. Warriors were on the North Wall; and on the ships in the Procession on the South Wall, some of the festively attired passengers have helmets hung above their heads to indicate that aspect of their status.

There may be a further connection between the now familiar elements of griffin/lion/warriors and the dual roles of the creatures as hunter and protector. It has been suggested that some of the creatures adorning the sterns of the ships in procession (presumably on Ships 3, 5 and 7: Pls. 175, 177, 12) are to be interpreted as griffins.¹¹⁵ Though stylistically unusual, iconographically this would make good sense. On the sterns of each of the remaining ships there is a lion. The two creatures play the same role elsewhere in the paintings, as hunters of deer, and their combination as protective emblems on the sterns of the ships (which have warrior-status passengers) would be a comprehensible extension of their dual concerns.

Deer

Playing the minor role of a hunted animal, deer occur in both *The Landscape* and *The Ship Procession* friezes. In the former, a small animal is chased by a griffin (Pl. 73), in the latter, three large animals are chased by a lion as they gallop along the tops of the hills above the Departure Town (Pl. 74).

The *Landscape* animal is painted in yellow ochre with longitudinal rows of spots rendered in black. Diagonal dashes along the belly indicate hair, below which is the white under-belly. The forelegs are attenuated, with no indication of hooves. Unfortunately, neither head, tail nor hind legs are preserved. The hill-top deer are better

preserved, and differ notably from the previous animal. Their bodies are painted uniformly in red ochre except for white on the under-belly and on the rump of the one animal in which this part is preserved (Pl. 74, left). Hooves are not indicated, but the projecting ankle-bone of the hind leg and the head of the ulna of the foreleg are prominent. On one, at least, the short tail is raised in excitement (a common animal signal). The heads are well observed, jaw open, ears held back, and from the crown of the head rise clearly identifiable antlers. The antlers are those of the male Mediterranean fallow deer, *Dama dama*, with characteristic palmation of the beam and numerous points (Pl. 75). The length of antlers in relation to the body is plausible.¹¹⁶ There are, however, a number of inaccuracies in the details of the representation. The antlers, while rising correctly from the pedicle in front of the ears, proceed at a vertical angle above the head instead of sloping backwards. The brow tine is correct in length and in its forward and upward slope, but incorrect in its position, too high on the beam where a shorter tine (the bez) should be. The prominent 'Adam's apple' of the fallow deer has also been omitted.

Coloration, as usually, is only partially accurate for the species. Unlike the European red deer (*Cervus elaphus*) and the adult roe deer (*Capreolus capreolus*) – both known in the Mediterranean – the fallow deer is spotted in summer.¹¹⁷ During this season, both male and female have a yellowish-brown coat with white spots, while under-belly, neck, legs and rump are white (Pl. 75). The young have a darker base colour with the same spots. The animal in *The Landscape* has a spotted back with white under-belly, both characteristic of the summer coat of the fallow deer. The spots are black rather than white, but as black was the pigment usually applied for internal details this is acceptable in the painter's terms. The head has not survived but there is insufficient space for antlers so the deer must be either a doe or a fawn. Compared to the adjacent animals, the small size suggests a fawn. The coloration of the stags on the hill-top is seasonally inconsistent. The spots of the summer coat have been ignored, but the white, summer under-belly retained. Similarly, on *The Landscape* fawn, the legs have the same spotted yellow ochre as the back; yet the legs of fallow deer in summer are white, and in winter a plain reddish-brown like the rest of the coat. Deer shed their antlers in April and grow them again during spring, losing the velvet by August. The coat changes in May.¹¹⁸ Conceivably, by indicating the white under-belly but the lack of spots, the artist may have been suggesting the moment immediately prior to this change. But such precision is unlikely, and with some regret I think we must simply assume that the artist was confused. It may be, therefore, that the fallow deer was a relatively rare sight.

Before its widespread introduction further north, the fallow deer's range was limited to the southern Mediterranean and Asia Minor. Its appearance in the wooded hills in the painting is ecologically apt for the wild animal, although stags more often travel alone than in groups. But while water is a periodic necessity, the fawn is out of place in the exotic setting of palm trees. In contrast to the wild stags, the fawn could have been a captured animal set loose in an enclosed park. Alternatively, it may have been included in the scene for a purely iconographic purpose, as a hunting adjunct to the griffin.

Although a number of sites, ranging from Neolithic through to late Bronze Age, have yielded the physical remains of deer, the species is not always identified. Fallow deer bones have been identified at Knossos from MM I onwards,¹¹⁹ and in material from the Psychro cave.¹²⁰ The smaller islands, having been wooded during the Bronze Age, could have supported deer. Red deer antler (*Cervus elaphus*) was a common find in the Bronze Age levels at Ayia Irini, Kea, but as no bones were recovered the animal need not have lived on the island.¹²¹ However, red deer was also reported in the analysis of the faunal remains from Akrotiri, including a skull fragment and phalange bone.¹²² Gamble assumes that the animal was imported by the Therans, citing Jarman's suggestion that the Minoans imported fallow deer to Crete as park animals. As yet, no fallow deer remains have been found at Akrotiri, though they do indeed make excellent park animals and one, at least, of those in the Thera paintings appears amongst cultivated vegetation. In general, iconography suggests that both red and fallow deer were familiar to the peoples of the mainland and the islands, whether from indigenous stock or imported.¹²³

In the majority of representations the context of deer is that of the largely Mycenaean theme of hunting. As prey it is attacked by the familiar predators of lions, griffins, and men. Sometimes, however, the animal appears in more peaceful circumstances or, on sealstones, isolated from any context.¹²⁴ On a seal from Thebes, a fallow deer is associated with a compact tree recalling the stone pines surrounding the Thera deer (Pl. 76, cf. 74). Among the gold cut-outs from Shaft Grave III at Mycenae, are deer heraldically seated on a stylized palm tree (Pl. 77). The antlers are akin to red deer, but the spots suggest fallow. These are partners to the cats-on-palm cut-outs from the same grave (Fig. 23). Cats and deer are therefore jointly associated with palm trees at Mycenae, just as they are in The Landscape painting at Thera.

Of the known examples of the cat and bird genre to which this painting belongs, only one other has deer amongst the elements. The Cat and Bird painting from Room 14 at Ayia Triada (fragmentary and as yet incompletely published) includes two ungulates,¹²⁵ one of

which is shown in Pl. 183. Papyrus – the most common associative plant of the genre – occurs with the animal. It may be a doe or fawn, but the features are generalized and it is variously described as deer or ibex. It lacks the white under-belly, appropriate to both animals, and the spots of the fallow deer in summer coat. The Ayia Triada painter nonetheless preferred plain to patterned coats, for the cats are also (inaccurately) without markings.

Deer are not as familiar a part of Cretan iconography as they are of Mycenaean: a fact partly influenced, no doubt, by the Mycenaean predilection for hunting subjects. To date, Ayia Triada has produced the only Cretan wall paintings with deer (a later painting shows deer led to an altar, a rare instance of the animal in a cult context).¹²⁶ On the mainland the animal occurs in the paintings of Tiryns and Pylos. The Kea paintings also include deer, as at Tiryns, in a hunting context.

At Pylos, besides a hunting scene, deer appeared on the walls of at least four rooms, associated with women, plants and altars¹²⁷ and hence showing affinities with the paintings from Ayia Triada (both the earlier and the later).¹²⁸ In one fragment (36 C 17) deer occurs with papyrus, as at Ayia Triada and at Thera. Another fragment is well enough preserved to show that the stag's antler is that of fallow deer (Pl. 78). The hunting scene (which decorated a room above Hall 46 and Room 43) comprised hunters with spears, dogs and a spotted deer unwarily approaching a hunter.¹²⁹

The miniature wall paintings from Kea, which are contemporary with the miniatures from Thera, include fragments of a deer-hunt.¹³⁰ The theme is familiar from the smaller surfaces of Shaft Grave art but, ironically, these two island sites have provided the earliest extant paintings of an essentially Mycenaean theme. They are, however, incorporated into larger compositions rather than treated as a separate subject. The features of the Kea painting include some that are familiar from The Ship Procession frieze: architecture, men and women in a variety of costumes, some passively framed by windows, others gesturing or running, others walking in a procession, and rowers. There are also dancers, a cauldron scene and horses and perhaps a chariot. Rocks suggest a hill-side setting for the hunt, and water may have been nearby. Taking part in the hunt are seven men and at least one dog, with five to seven deer. (The animals, however, are on a slightly larger scale than the men and in no surviving fragments are the two together.) Fragments of both does and bucks are preserved, and from the spotted coats (white on brown), white under-belly, and shape of antlers, Abramovitz's identification of fallow deer is firm. Among the parallels between the miniature wall paintings of Kea and Thera is this combination of pursued fallow deer (by men at Kea, by a lion at Thera)

amongst rocky hills near water in the vicinity of human activity and buildings.

At Tiryns the Hunt Fresco from the Second Palace is more contained as a subject.¹³¹ The hunters carry two javelins but wear no armour, and are accompanied by dogs. Fragments of horses and chariots indicate the degree of organization of this hunt, in which wild boar are the main prey but deer are also pursued. Rodenwaldt identifies one fragment as deer antler, and the shape suggests fallow.¹³² The animal fragment reproduced in Pl. 79 is catalogued as 'hare?',¹³³ but the spotted coat, monochrome under-belly and white rump are all characteristic of fallow deer and the slight body suggests a fawn. In another painting a group of stylized fallow deer form a static frieze while others run and gallop without visible context.¹³⁴ Despite the stylization, distinct features of the animals are shown: palmated antlers, short tail, spotted coat, white under-belly and rump and the characteristic pubic tuft of hair (a feature which is applied to the Kean deer though not to those at Thera). One of the rings from Shaft Grave IV¹³⁵ depicts men hunting fallow deer from chariots, as in the Tiryns painting. Scenes such as these show the deer-hunt as a Mycenaean sport, but we may also assume that the animal was hunted for antler, hide and meat. There are occasional references to deer, and to deer-skins in a list of leather goods, in the Linear B tablets from Pylos.¹³⁶

At Thera, the deer are hunted not by men but by lion and griffin, the two familiar predatory creatures of Aegean iconography. The themes are related: what was prey for lions was sport for men. Although in Aegean iconography lions have changing roles – as predators of animals or the prey of man – the role of deer is static. It is a passive role, applicable to the herbivore; the animal occurs alone, quietly feeding on vegetation, led to an altar as sacrifice, or hunted and attacked. As the prey of lion and griffin, the Theran paintings show the animal in its most familiar role. It is a context usually thought of as Mycenaean in spirit and can be traced from the contemporary Shaft Graves right through the Mycenaean age. The inclusion of the deer-hunt theme within the miniatures is evidence for the close association between the Theran artists and those of Mycenae.

Ox

On the South Wall, the line of men along the base of the Arrival Town includes two in front of the gateway leading a calf towards the shore (Pl. 81). The scene is fragmentary and the calf preserved only around the head. It is rendered merely in black outline on the white ground, with bovine-shaped head, a short horn by which one of the men leads the animal, and a fringe of hair on the

throat (a characteristic which the artist has seemingly borrowed from sheep, cf. Pl. 82). The animal is evidently domestic and its context within an urban setting, led by processing men on the occasion of a festival (Ch. 10), implies that its function was sacrificial.

An unpublished fragment of two bulls on exhibition in the Athens Museum almost certainly came from the North Wall to the right of the surviving scenes,¹³⁷ but its context cannot be more closely ascertained. The ground is white, but beneath the bulls is an area of pink on which the red ochre of a man's arm can be seen in the extreme lower edge of the fragment, diagonally right to left. The lower bull is imaginatively rendered in blue, and has black horns. It moves towards the left, the head reaching to the preserved edge of the fragment (the horns just below the hooves of the animal above), the hind-quarters not preserved. The upper bull gallops towards the right. Only its hind-quarters are preserved. The animal is piebald: black splodges on white; the hooves are black, as is the tail; the line of the belly defines the male pubic tuft of hair. Both bulls move in a moment of extended gallop.

In spite of their free-rein appearance, the bulls represented are not likely to have been wild. The piebald hide is evidence of domestication, as has been noted with reference to the bulls in the Taureador Frescoes of Knossos and Tiryns.¹³⁸ Domestic cattle in their various breeds are descended from the, now extinct, wild aurochs, *Bos primigenius*, illustrated in Pl. 80.¹³⁹ The characteristic horn shape of *primigenius*, curving forward and then upward, is evident in the profile view of the lower bull in the Theran fragment, as it is elsewhere in Aegean iconography (Pl. 31). In domestic cattle this shape is applicable to the long-horned *Bos taurus*.¹⁴⁰

Bos primigenius was probably brought to Crete, already domesticated, by Neolithic settlers,¹⁴¹ and it is thought that it was feral stock that was later used in the bull-leaping sports.¹⁴² As domestic fauna, cattle took third place after sheep and goats (which far outnumber other faunal remains) and pig.¹⁴³ At Akrotiri, Gamble's analysis of the fauna has revealed an even lower proportion of cattle than the average, not surprisingly in view of the terrain.¹⁴⁴ As draught animals, these would also have yielded milk, but only the old would have provided the inhabitants with meat and leather.

The relative proportion of cattle to sheep and goats expressed in the faunal remains is conveniently reflected in the paintings. To eleven or more of the latter (under the control of man) there are two of the former (free-rein) with a third in a different context (under control). The representations combine a typically Theran mixture of observation, tradition and invention. The scale, relative to the sheep and goats, is reasonable,¹⁴⁵ as is the piebald hide. The mid-gallop posture is a familiar iconographic

convention for bulls. The blue bull, like the blue cat, is an idiosyncrasy of Theran painters.

In the two examples in the paintings – those from the South and the North Walls – bulls are presented in tamed and free-rein state. But the functions in the paintings overlap: thus, the calf on the South Wall is domesticated but presented not for its domestic usefulness but, we may guess, as potential sacrifice. On the North Wall, the bulls are associated with a scene of pastoralism, but rather than expressing their economic function within this setting, they are shown running wild in the manner of bulls used in sports.

The combination of pastoralism, a coastal settlement, and drowning sailors within the North Wall scenes is present also in the Town Mosaic (cf. Ch. 11). Among the elements recorded in the Mosaic is an ox hoof,¹⁴⁶ indicating that the incorporation of cattle within this genre scene was common to both Knossos and Thera.

Aegean art, unconcerned as it is with the economic factors of daily life, rarely shows cattle in a domestic context.¹⁴⁷ It is bull-sports, with their long tradition in the Aegean, that dominate. The earliest depictions are from EM III–MM Ia tombs at Koumasa and Porti, in the form of bull vessels with (minuscule) acrobats hanging on to the horns.¹⁴⁸ Popularity of the sport had apparently grown by MM IIIb–LM I, as shown by sealings from Ayia Triada;¹⁴⁹ the Ayia Triada Sports Rhyton;¹⁵⁰ and the several bull-sports paintings and reliefs from the Palace of Knossos.¹⁵¹ Most of the mainland palaces incorporated bull-sports into their wall decoration: Tiryns, Mycenae, Orchomenos.¹⁵² On an ivory circular box from Katsamba, attributable to LM I, a man acrobatically vaults the horns of a bull which is simultaneously hunted by men with a spear.¹⁵³ This combination of physical challenge and human dominance, presumably always a part of the bull-sports, is also evident in the Vapheio cups.¹⁵⁴ On the 'wild' cup a man is thrown by the bull, again on the horns, like an acrobat. The pair of cups together express the dominance of man over his environment. The bull is wild and throws his legs back in defiance in a landscape of palm trees, a plant associated with dominant creatures (lion and griffin). Another bull is caught, and the net which captures him is tied to a domesticated plant, the olive. On the other cup, the bull is again associated with the domestic olive and is subdued by man.

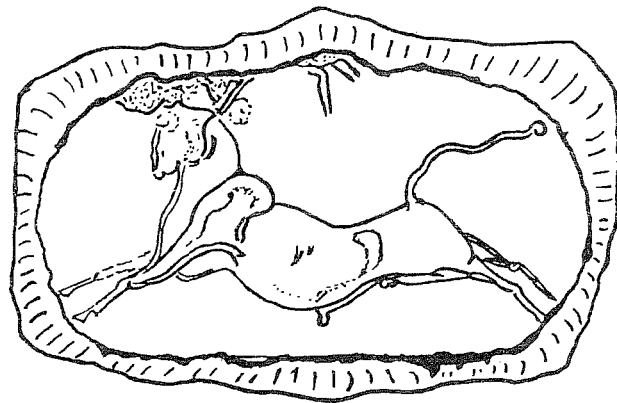
The wild or feral bull galloping alongside palms on the Vapheio cup throws his forelegs out in front, with the furthest leg from the spectator placed higher than the near; his hind legs are then thrown up into the air behind him, again with the furthest leg higher (Pl. 31). The position is a combination of galloping and bucking, and is the position adopted by the bulls in the North Wall

fragment. It indicates ungovernable vitality. On occasion, on sealstones, the bull is clearly charging, head down with horns ready.¹⁵⁵ But the most commonly applied usage of this posture is for bull-sports (e.g. Fig. 42, sealing from Gournia).¹⁵⁶ Perhaps the arm in the lower right of the Theran fragment belonged to a tamer of bulls?

Cattle, like deer, are portrayed as the prey of lions (e.g. Pls. 58, 70, 72). Otherwise, they are shown not in association with other animals, but under the power of man: in domestic servitude (rarely), dominated physically as in the bull-sports or transferred to the religious sphere as a cult emblem or sacrificial victim. The former could conceivably apply to the bulls in the Theran fragment, the latter to the Theran calf.

The calf led by two young men in the procession passing the walls of the Arrival Town may be taking either a domestic or religious role, or indeed both. The image of a bull led by a man is one which is repeated on sealstones.¹⁵⁷ On occasion, the man is replaced by a Minoan daemon, a creature whose role is that of guardian and who indicates the sacral nature of the scene.¹⁵⁸ The cultic importance of the bull's head and horns in Minoan religion is well documented.¹⁵⁹ Bull's-head rhyta are one manifestation of this, and from Akrotiri came a rhyton in the form of an entire bull with net-pattern (indicating capture) on the hide.¹⁶⁰ Calves or model bulls are brought as offerings to the deceased on the Ayia Triada sarcophagus.¹⁶¹ Model bulls and bull's-head rhyta are among the goods brought by Keftiu in Egyptian tombs.¹⁶² Bovines, too, are amongst the clay animal figurines found at peak sanctuaries and in caves on Crete,¹⁶³ while clay oxen were recovered from a burnt deposit at Akrotiri.¹⁶⁴

Sacrifice of cattle is evident in the iconography. The bull may be shown with the weapon of its sacrifice



42. Sealing from Gournia.

(double-axe or, more rarely, spear),¹⁶⁵ or tethered to a pastoral shrine,¹⁶⁶ or trussed up and lying on a table or altar ready for the deed.¹⁶⁷ Of the last image, the most explicit example is on the Ayia Triada sarcophagus where the trussed bull has already been slaughtered, blood from the neck pouring out into a vessel beneath.¹⁶⁸ Cattle bones recorded from cult contexts provide archaeological support for these iconographic depictions of sacrifice.¹⁶⁹

For the calf led by the men in the painting, there is no direct evidence for a sacrificial function, but the processional character of the men and the festive nature of the event depicted in the procession of ships implies such an intention. It is notable that the calf is led by a gateway adjacent to a wall crowned with horns of consecration, thereby reiterating the cultic associations of the ox.

The men leading the calf may be sailors, and they walk towards the sea where the ships are approaching the harbour. In the Pylos tablets the deity Poseidon is offered, amongst other things, a cow.¹⁷⁰ It is incautious to correlate the deities of Linear B with those of Classical times on the grounds of name alone, but here the association of bull and sea-god is pertinent. In the Knossos tablets rowers received or supplied an offering of cattle,¹⁷¹ again making the association between the sea and a bovine offering. Such a tradition extended into later times. Homer frequently refers to the custom of sailors sacrificing an animal on the shore, usually an ox, both before and after a sea voyage; and in coincidence with the tablets, we learn that when Odysseus and crew arrived at Pylos they found the people on the beach sacrificing bulls to Poseidon.¹⁷² Apollonius also relates the custom of sacrificing bulls on the beach before embarkation.¹⁷³ Nor is the idea restricted to ancient times. Bent, in the last century, recorded the custom of slaughtering an ox on the shores of Thera at the ceremony of the launching of a new vessel.¹⁷⁴ In the painting, the function of the calf led towards the shore may reflect this long-standing tradition.

Sheep and goats

In the higher zone of the North Wall scenes, two shepherds lead their mixed flocks of sheep and goats (Pl. 82). The animals are mostly paired, each pair contrasting in colour. The upper row, moving towards the right, comprises sheep; the lower, moving left, goats. Mixed flocks of sheep and goats are a common economic factor in the dry pasturage areas of the Mediterranean, for their needs are approximately the same and they are bred for the same purposes: milk, wool, meat, hides. Both animals thrive amongst the sparse upland vegetation of the Greek

islands and the painting testifies to their importance in the economy of Bronze Age Thera.

Morphologically, the genera sheep (*Ovis*) and goats (*Capra*) differ as follows: (1) forehead concave, nose convex in sheep; forehead convex, nose slightly concave in goats; (2) sheep beardless; goats with beard; (3) horns of male sheep curved either spirally or in an arc with ends pointing slightly inwards and sometimes forwards; horns of male and female goats bent backwards and upwards behind the neck; (4) tail of sheep shorter than ear; tail of goat longer than ear.¹⁷⁵ The painter of the North Wall has met most but not all of these differences. Thus: (1) the forehead is convex on both animals, but the nose is accurately more convex in sheep than goats; (2) beards are applied only to goats (though perhaps not to all); (3) horns are differentiated accurately; (4) tails, as far as one can see, are not differentiated. Individuality is expressed by the painter in terms of coloration and markings; thus exact identification of species is an implausible task. Both animals are clearly domesticated, and wide variation occurs within domestic breeds.¹⁷⁶

Domestic sheep (*Ovis aries*) may be derived from one or more of the wild *Ovis*, notably the European mouflon, *O. musimon* (now only in Sardinia and Corsica) and the urial or Asiatic mouflon, *O. orientalis* (Cyprus and further east).¹⁷⁷ The sheep in the painting display the basic characteristics of the adult male mouflon: large spiral horns directed forwards, and a mane of hair along the neck (Pl. 83). But whether by accident or design, distinctions between mouflon and urial types are present in the two pairs of sheep, top left of the herd. The two nearest to the spectator are reddish with dark horns (cf. the mouflon type), the two behind are pale with white horns, black streak behind the shoulder, and a more conspicuous neck-ruff (cf. the urial). Selective breeding may be evident, as it certainly was in later Greece.¹⁷⁸

Marinatos' identification of the sheep as *Ammotragus lervia*, the North African Barbary, on the grounds of its curved horns and neck-mane,¹⁷⁹ is clearly unnecessary. The mouflon and urial, probable ancestors of the domestic breeds, have just such characteristics. The neck-mane of Barbary sheep is more like a goat's beard than a sheep's ruff. Nowadays the animal is classified as a species of *Capra* rather than *Ovis*; and although in modern times it has been crossed with domestic goats, the Barbary has not itself been domesticated.¹⁸⁰

The two sheep top-right of the herd are, like the others, differentiated as dark- (here black rather than red) and light-coloured, but they lack horns and neck-ruff so are probably ewes. Their lack of beards indicates that they are not to be confused with the goats in the line below.

The goats display greater variation than their companions. Their coats range through white, red, black, and

piebald (red on white). Those that are well enough preserved can be seen to have the characteristic pointed goat's beard and gently sloping nose (cf. Pl. 85).¹⁸¹ The positions of the ears have been carefully noted by the painter: the goats standing erect have ears back, the one with its head down has its ears pointing forward. Both positions are common to several species of mammals (cf. Pl. 85), and the painter of *The Antelopes* made the same distinction (Pl. 86). These are clearly domestic goats (note the piebald hide) of a variety of breeds. Their ancestor is likely to have been a relative of the wild Bezoar, *Capra hircus*, whose distribution includes the Greek islands.¹⁸²

The artist has included some features which properly belong to other animals. The horns rise gently behind the neck of the black goat (second from left, behind) as they do on domestic goats (cf. Pl. 85).¹⁸³ Yet on the white animal leading the herd the horns betray confusion with the antlers of a deer. This animal, like the other white goat, has a second feature of confusion. It was noted above that the white sheep have a vertical black line curving down from the back behind the neck, and it was suggested that this may be a feature derived from the urial. Goats sometimes also have a ridge of black hair behind the neck (just visible on the domestic goat in Pl. 85), but it is nowhere near as pronounced as we see here. However, one animal which does exhibit this feature in spectacular fashion is the agrimi, or Cretan ibex (*Capra aegagrus cretensis*) (Pl. 84). It appears that the artist has confused the wild agrimi with the domestic goat; yet the confusion is less likely to have arisen from observation of the Cretan animal than from artistic copying. The *Antelopes* from B 1 at Thera are composite animals for they too have been given the agrimi's shoulder-stripe (Pl. 86). The probable prototype for this is to be found in the faience plaque of Goat and Kids from the Temple Repositories at Knossos.¹⁸⁴ The waving horn is the correct length for the agrimi, yet is curved like that of the antelope; while along the neck is the distinctive shoulder-stripe of the agrimi.

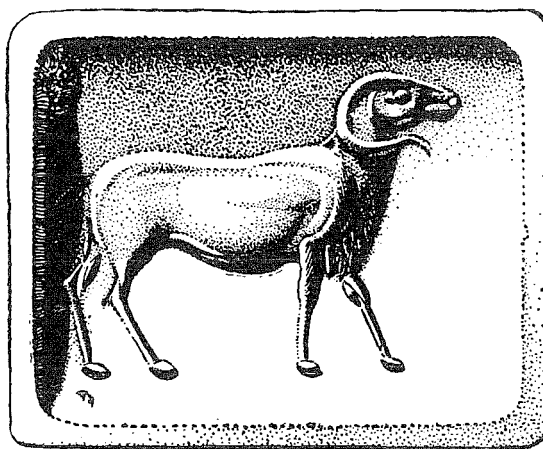
Domestic animals, of any species, are not as frequently depicted in the iconography as wild. Wild goats (but not sheep) commonly occur in glyptic scenes, frequently attacked by lions or griffins, sometimes hunted by men. In a serpentine fragment from Knossos a man grasps a goat by the horns; below is a helmet, associating warfare with the hunt.¹⁸⁵ In other scenes the goat is shown in a religious context: led to an altar, in heraldic pose, drawing a chariot.¹⁸⁶

Examples of domestic sheep and goats are not numerous, and I know of no comparable depiction of a herd of mixed flocks led by shepherds. The closest parallel comes from the Town Mosaic: at least two goats,

recognizable by their pointed beards and upright horns as well as by the concave nose, are depicted in association with fragments of two men with sticks (Pl. 190). The sticks are presumably the shepherds' staffs, as in the Thera painting, and the men must originally have been in the same zone as the goats for both are surrounded by a background of 'pebble-dash'.¹⁸⁷ From Thera, a fragmentary painting (unpublished, on exhibition in Athens) depicts young goats (?) flanking a crocus clump (above, p. 29, n. 125) while two kymbai and an oinochoe have goat-like animals, also associated with crocuses; dashes and blobs on the coats suggest piebald domestics.¹⁸⁸

Despite some ambiguous renderings of sheep and goat, the distinctive low, curved horns of the mouflon-type sheep is a recognizable characteristic of many representations.¹⁸⁹ One of the most literal is on the seal from Lyktos in Fig. 43, whose features (horns, profile, mane) compare with the Thera type. Only rarely are sheep shown within a specific context. On a seal impression from the Hieroglyphic Deposit at Knossos, a sheep stands before a fence-like structure, while a boy sits below.¹⁹⁰ A seal from Vapheio and another from Epidauros show a (strong) woman holding a ram.¹⁹¹ The format is closely paralleled by a sealing from Zakros in which we see the purpose of the woman's stance: in front of them stands an altar for the sacrifice.¹⁹² More frequently, sheep are isolated from any explanatory scene. Yet in the Thera painting the animals are placed within their domestic and hence economic context.

Sheep and goats account for the largest proportion of faunal remains in Neolithic and Bronze Age sites in



43. Cornelian 'flat cylinder' sealstone from Lyktos, Crete.

Greece, often comprising 70–85%.¹⁹³ Excavation reports rarely separate the genera, however, for the majority of the bones are difficult to distinguish. At Akrotiri 72% of the economic species comprise sheep and goat, and, as on other sites, estimates of the ratio indicate a dominance of sheep.¹⁹⁴ Gamble suggests a mixed management strategy with the emphasis on milk, along with small wether flocks kept for wool and surplus lambs for meat.

Dairy products must have provided a large proportion of the population's protein supply. Both sheep and goat's milk is used in the production of cheese and yoghurt in Greece today. Evidence for cheese-making in the Bronze Age has been found in the form of clay strainers, and on Therasia remains of a substance identified as cheese were reported;¹⁹⁵ cheese is mentioned in a list of offerings in a Pylos tablet.¹⁹⁶ Meat would have been a luxury, rather than an economic staple.

The skins, hair and wool of sheep and goats would all have been utilized: hides of old or surplus animals for leather, hair for coarse yarn and perhaps felt; wool for finer yarn (cf. p. 100 below). Sheep are, of course, the main wool-producing animal, but goat's-hair also yields a serviceable, if coarse, wool.¹⁹⁷ Sheep were doubtless bred for the quality of their wool in the Bronze Age, as they were in Classical times.¹⁹⁸ Specialized woollen industries were practised in the Early Bronze Age, as adduced from the large proportion of sheep and goats' bones and equally large numbers of loom weights from the site of Myrtos.¹⁹⁹ Textile production was an important part of the domestic economy at Thera; groups of loom weights attest to the existence of a loom in almost every house.²⁰⁰ Selective breeding for the purpose of wool production is likely to have begun early, and the Thera painting shows different breeds in a single flock. Further evidence for breeding has been adduced from the Pylos Cn tablets:²⁰¹ differentiation is made between new and old stock; officials responsible for new breeds are mentioned; and flocks containing a mixture of various breeds are thought to exist. The Pylos tablets also suggest the herding of mixed flocks.²⁰² The comparative numbers of sheep *versus* goats – considerably more of the former – parallels the archaeological evidence.

At Knossos, the largest series of Linear B tablets deals with flocks of sheep.²⁰³ Killen, in analysing the series, comes to the conclusion that the amount of wool annually produced by the palace flocks was so large that wool is likely to have been the source of Knossian wealth in the Late Bronze Age.²⁰⁴ The tablets include records of shearing (Dk) and of the production of wool (Da–Dg). Killen notes that the ideograms include a considerably larger proportion of rams, and concludes that these are wethers, though still designated with the 'male' ideo-

gram, only a few uncastrated rams being kept for breeding.²⁰⁵ Mature wethers, he points out, have a higher wool yield than ewes and are more resistant to disease; they therefore make good economic sense in a primarily wool-producing flock. The wool total in the tablets represents the amount which the rams listed were expected to produce, while a deficit number indicates the amount that production had fallen short of that expectation. One ram could be expected to produce approximately 1.6 lb of wool.

It may be that the Thera painting reflects a similar situation to that of the Knossos tablets, though on a smaller scale and not pertaining to a palace economy. Judging by the horns and neck-mane it seems that a greater number of rams than ewes are depicted, indicating that these are largely wool sheep rather than dairy sheep. Killen, in suggesting that the Knossos tablets intimate a trade in wool and textiles, cites the Greek mainland as a possible area for some of the export; significantly, there are no textile records at Pylos, though a few at Mycenae refer to wool.²⁰⁶ Thera, on the other hand, is likely to have been self-sufficient in this respect, for both the faunal remains and the evidence of the paintings indicate that sheep and goat rearing was a major part of the local economy, while the loom weights suggest a local textile industry.

A final word may be said on the locality of the flocks in the painting. The shepherd and herdsman lead their flocks in the highest zone of the painting, corresponding to the hill-top on which the meeting takes place. We may assume that the sheep and goats are being led along a path at a high altitude. Greek shepherds, in ancient and modern times, tend their flocks in the lowlands during the winter and lead them up into the hills during the dry summer.²⁰⁷ The time of upland movement occurs in spring, and we may assume from the locality of the flocks in the painting that a spring or summer season is intended in this scene.

Dolphin

Around the ships swim thirteen or fourteen dolphins (Pls. 9–11, 87–8). They swim singly or in pairs, all but one pair following the direction of the ships. Their bodies arch downwards and upwards in rhythmic motion as they leap through the sea. Dolphins are also applied as prow emblems on one of the ships (Pl. 90) and as hull decoration on the flagship (Pl. 10).

The anatomical details, here as elsewhere in Aegean iconography, are not totally accurate but serve sufficiently for identification of species. According to F. C. Fraser of the British Museum (Natural History), London, the Thera dolphins are modelled on *Delphinus delphis*,

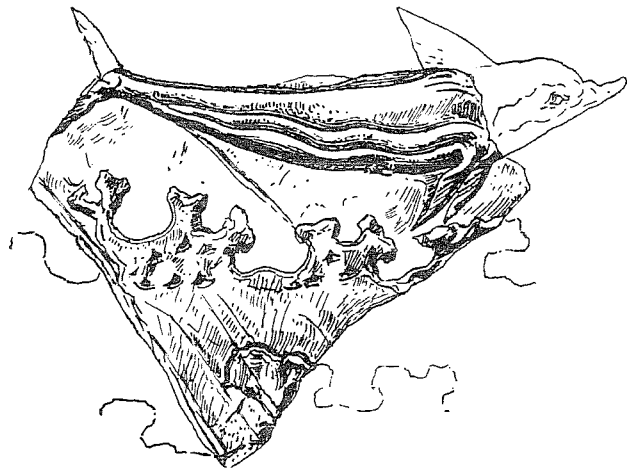
the common dolphin (Pl. 89), while those of the Queen's Megaron at Knossos are closer to *Stenella styx*, the Euphrosyne dolphin,²⁰⁸ identifiable by the band of pigmentation running around the eye and into the intermediate streak along the flank (though it should run above the pectoral fin, not beneath it). (The reconstructed nose is based on the bottle-nosed dolphin.) But he notes that the two species are sufficiently similar to be mistaken for one another.

The common dolphin averages 1.5–2.5 m in length; in the painting they are slightly oversized compared with men and ships. The beak is long, narrow and well defined from the forehead; this is accurately depicted. The pectoral fins extend below the body a short way back from the head. The dorsal fin rises above the back at mid-body length. Here there is a discrepancy in the painting: the pectoral and dorsal fins (though correctly shaped) are shown in alignment, the former too far back, the latter too far forward. The tail lies horizontally, but the vertical position in the painting derives from the conventions of perspective. The tail is fluked but the fins are not; here the painter has confused the dolphin with fish in giving it flukes on both. Pigmentation of the common dolphin runs: dark (bluish–black) on the back, alternating bands of dark and light on the sides (grey, yellow, white); white under-belly; flippers black, extending forward in a narrowing streak towards the jaw. This black line is exaggerated in the painting, since the flippers are too far back; on all but one, the flippers are blue (= dark), usually contrasting with a yellow (= light) belly. The general principle of alternating bands, with dark on the back, has been observed by the artist; only two dolphins are given a light back. But this painter would not be content with literalistic, repetitive coloration and instead creates lively combinations for the sake of variety and, in the cases of two overlapping dolphins, clarity. Seven permutations may be noted using the colours blue, yellow, white and (less frequently) red.

The dolphin is a good example of an animal copied within artistic traditions rather than from life, for zoological errors are consistently repeated. Indeed, the distinction between dolphin and fish is not always clear; the creatures on the Phylakopi Fishermen Vase have the characteristic banded body of a dolphin with the defined gill-cover of a fish.²⁰⁹ Dolphins are not common in Aegean iconography outside the period corresponding to MM III–LM I.²¹⁰ One of the earliest naturalistic representations is on a relief vase from the First Palace at Phaistos.²¹¹ Dorsal and pectoral fins are aligned, an error to be repeated. Two MM IIIb jars from Pachyamos depict dolphins with different characteristics, suggesting that 'dolphin-like' was sufficient and idiosyncrasies acceptable.²¹² More naturalistic depictions occur on an

MM IIIb bead-seal from Palaikastro²¹³ and on a fragment of a serpentine vessel from Knossos (Fig. 44). The hybrid creatures on the LM Ib rhyton from Pseira in Fig. 17 provide a rare example of dolphins where one might expect to see them, on Marine Style pottery.²¹⁴

Considering how rarely pottery appears to have been decorated with dolphins, it is surprising that no less than ten vessels with the creature have been found at Akrotiri, an emphasis presumably applicable to the sea-faring nature of the site (the comparative examples noted above are all from sites near the sea: Phylakopi, Pachyamos, Pseira, Palaikastro, Knossos, Phaistos). The most spectacular is the painted stucco table of offerings from the West House (Pl. 50). Amid marine rocks and vegetation, the creatures dive up and down and swim on their backs. They exhibit similarities to those in the paintings: the fins are inaccurately fluked; the ventral streaks are enlivened by wavy strips of red, yellow and white, a different combination on each animal.²¹⁵ A globe between body and tail allies the table with the ceramic versions from Crete (cf. Fig. 17) and contrasts with the naturalistic rendering of form in the painting. On a second, less elaborate table of offerings from Δ 8, pairs of dolphins amid vegetation dive downward into the legs of the table.²¹⁶ Three polychrome kymbai are decorated with stylized dolphins, perhaps all by the same hand. One from B 2 includes 'waves', one from Room 5 of the West House adds a little vegetation, and another from the House of the Ladies adds more.²¹⁷ Goats and crocuses are on the other sides of the last two. On all three kymbai, the black bodies are given one or two white streaks, in some cases encircling the eye. Dolphins also occur on an unusual double vase from Δ 17,²¹⁸ on two eyed-ewers from Δ 1 and Δ 9,²¹⁹ on a shallow bowl from the West House and on a pithos.²²⁰

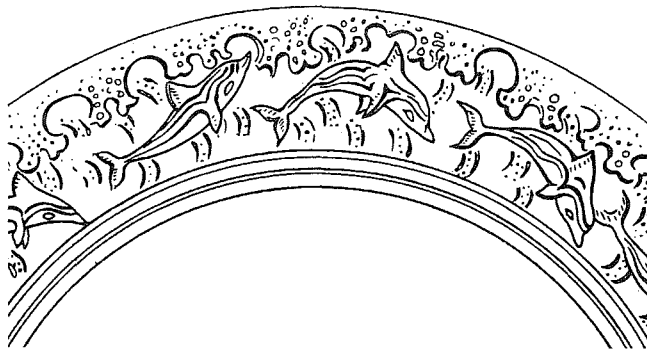


44. Fragment of a serpentine relief vessel from Knossos.

The few examples of dolphins from the mainland at this time exhibit similar characteristics to those of the Theran painting. A gold cup from Shaft Grave III at Mycenae is decorated in repoussé with swimming dolphins and marine vegetation (Fig. 45); and has affinities with the Knossos stone fragment (Fig. 44). From Dendra, the gold cup in Pl. 49 incorporates dolphins amid octopus and marine vegetation. The animal also appears on an ostrich egg from Shaft Grave V at Mycenae,²²¹ on an inlaid dagger from Prosymna,²²² and on the Epidaurus stone vessel in Pl. 193, where it accompanies the sailors.

In the Theran painting, the dolphins take their place within the larger context of The Ship Procession. However, such contextual setting for the animal is unusual in wall paintings. The Knossos fresco from the 'Queen's Megaron' (above, n. 208) may have belonged to the floor of an upper room, as Hood suggests.²²³ In composition – dolphins surrounded by small fish – and architectural position it would then compare directly with the Dolphin Floor at Ayia Triada, now thought to be contemporary, LM I.²²⁴ A dolphin painting was found in House J at Ayia Irini, Kea, on a floor with LM Ib/LH II pottery.²²⁵ Whether it decorated the floor or the walls of the room is uncertain. Parts of between six and nine dolphins have survived and, as in the Theran painting, their bodies are divided into strips of alternating colours: yellow, blue, red, white. No other elements appear to have accompanied them.

The Kean painting still depicts a school of dolphins, even though deprived of a naturalistic setting. In the later floor decorations of the palaces of Tiryns and Pylos dolphins are reduced to conventionalized patterns.²²⁶ At Tiryns, both the Megaron and Room XXI incorporated dolphins in the decoration of the stucco floor pavings. Dolphins and octopus lie alongside non-representational patterns with equal disregard for content. These are designs rather than images with a context; the association with the sea, so prevalent in the earlier examples, has been lost.



45. Dolphins on a gold cup from Shaft Grave III, Mycenae.

In most circumstances the dolphin is associated with fish or marine rocks and vegetation, placing the animal within its natural environment. An association with ships is evident in the hull decoration of the Theran flagship (Pl. 10), and this is paralleled in a fragment of the miniature painting from Kea showing a ship's hull decorated with images of dolphins.²²⁷ In other cases, the dolphin is shown to be the companion of ships at sea. It is, of course, in this capacity that the dolphins are utilized in the Theran painting. On a gold ring from near Herakleion, Fig. 89, three dolphins swim beneath a departing ship, pointing in the direction that the ship will go as though leading the way. The largest of the objects below the ship on the Tiryns ring in Fig. 68 may also represent a dolphin (the others are oars). The association between ships and dolphins is an early one: it occurs on an MM I–III seal-stone from Platanos (Pl. 163). Here, too, the dolphins swim in the direction in which the ship travels. The same is true of the Theran painting, where all but one pair of dolphins travel along the same route as the ships. In the Epidauros stone fragment in Pl. 193 the dolphin actually approaches the coast alongside the sailors.

The dolphin therefore has two iconographic functions: it acts as an ideogram signifying the sea and is a means of defining the element in which the ships are travelling; and it is a companion of ships and of sailors. Both these functions recur in the iconography of the Classical period.²²⁸

Delphinus delphis usually travel in shoals near the surface of the sea; they are fast swimmers, capable of travelling at up to 25 knots, and they can often be seen in the Mediterranean leaping in and out of the water around moving ships, whose company they appear to favour. Their iconographic functions are, therefore, easily understood. Keller further comments on the usefulness of dolphins to sailors in that the direction of the wind of the following day may be ascertained by their appearance.²²⁹ Whether for this reason, or merely to emphasize the marine environment, dolphins are utilized as prow emblems on one of the two ships leading the fleet (Pl. 90). Their small scale inevitably leads to a summary depiction, but the general shape and the position of dorsal and pectoral fins identify them. The dolphins painted on the hull of the flagship (Pl. 10) reiterate the marine associations and complement the real dolphins in the surrounding sea.

Whether the dolphin had any mythic associations, as in the Classical age, is unknown. In the literature and art of the later period the dolphin appears as the friend of sailors.²³⁰ They were said to have co-operated with fishermen by chasing fish into nets; and they were sacred to Poseidon. The only possible intimation in Bronze Age iconography is on a seal from Knossos showing a figure

in priestly garb in the company of a dolphin,²³¹ and perhaps in the bizarre figures with 'dolphins' on the Phylakopi Fishermen Vase.

In the Thera painting, the dual functions of the dolphin in Aegean iconography are combined: the sea is defined in terms of a marine environment by the presence of the dolphins, who provide a setting for the ships and a congenial accompaniment for the sailors.

Birds

Birds appear in two major roles in Aegean iconography: as an aspect of nature associated with the appropriate environment of the species; and as an emblem or attribute. The former is literalistic, describing the natural state of being a bird; the latter is symbolic, evoking a cultural idea, often of divine presence. Rarely are the two roles obviously combined.

In the West House paintings both roles are represented, and a distinction can be seen between the species in each case. In The Landscape frieze, two waterfowl comprise the natural fauna for the riverside setting (Pls. 91–2); the wing of a third (Pl. 92, upper right) indicates that others completed the scene. In The Ship Procession frieze, birds are among the ships' emblems. The figuration is generalized but the plump body, rounded crown and short bill all suggest a dove. On the sailing ship, they are part of the painted hull decoration, forming a line between the stylized crocus blooms (Fig. 14; Pl. 94). On Ship 4 (below the Departure peninsula) a bird in flight is the distinguishing prow emblem (Pl. 96).

Waterfowl, doves and swallows are the birds most often represented by Aegean artists. The numerous LM III ceramic birds are of indeterminate species (those on LH III pots from Cyprus have been identified as egrets and bustards);²³² but most earlier representations are of one of these three. For a brief period Cretan wall painters branched out: partridge and hoopoe appear in the Caravanserai, the latter also at Katsamba, and pheasant-like tails in fragments from Ayia Triada (Pl. 182) and Knossos (Pl. 184),²³³ but these are rarities. At Thera all three common types are represented, as well as some, on the pottery, which remain inscrutable.²³⁴ Waterfowl occur again in the paintings of Xesté 3; swallows in the Spring Fresco (Δ 2), and in fragments from the Room of the Monkeys (B 6), Xesté 3, and perhaps A 1 (see Appendix). Both species occur on the pottery.²³⁵ Doves, with their more specific and limited role, occur only in the miniature frieze.

Waterfowl

It is rarely possible, in Aegean art, to distinguish species of waterfowl beyond the basic categories of goose, duck

and swan (the last appearing only rarely, on seal-stones).²³⁶ The majority occur on small carved surfaces, which lack the distinguishing colours so necessary for identification. It is in wall paintings that species of animals or plants may be defined. Thus the duck from Xesté 3, despite some inaccuracies, is immediately recognizable as a male mallard from its green and red markings, white ring around the neck, and curled 'sex feathers' on the tail.²³⁷ But there are few painted representations of waterfowl in the Aegean, and none has the fidelity to nature of those in Egyptian paintings.²³⁸ A bird from the Old Palace at Tiryns may be a goose, but the yellow head and pointed bill are elements of a Tirynthian imagination.²³⁹ The geese in the Thera painting therefore have no immediate comparisons. They defy precise identification, reflecting the Minoan tendency for hybridization.

The birds' wings are divided by lines. On the goose in flight, the wing area is spread and the central part distinguished from the upper and lower edges by a lighter tone. On the preening bird, the wings are slightly raised from the back, and a distinction is made between the lower area with straight divisions running the length of the wing and the shoulder which is picked out by short lines and a horizontal division. To a large extent these distinctions are indicative of the wing structure of all birds. The wing is composed of long parallel flight feathers which are overlaid at the base by rows of shorter feathers called coverts. On the preening bird (Pl. 92), the separately defined shoulder area suggests the wing coverts, with the flight feathers extending in parallel lines below. Very few Aegean depictions of birds include this feature; the geese on the Master of Animals Aegina pendant are two of the most detailed in this respect (Fig. 49).²⁴⁰ When the wing is extended in flight, the division between flight feathers and coverts is evident not in structure but in tonal change. On geese, the former are dark while the latter are pale grey (Pl. 93). On the goose in flight, the artist has accurately depicted this difference but added a further dark area at the top of the wing.

The flying goose (Pl. 91) is painted blue with white in the wing and along the centre of the body. In all likelihood this represents the large greylag goose, *Anser anser* (Pl. 93), or possibly the similar, but darker, Bean goose, *Anser fabalis*. The white line along the body would then be the area separating under-belly from wing; this is visible on the side of a stationary bird and from below in flight. Structurally, the wing preserved below the body should, therefore, be interpreted as belonging to the far side of the bird so that the under-belly is visible but, illogically, the wing tones correspond to a view from above. The bird preening its feathers (Pl. 92) is almost certainly an artist's hybrid. The feathers are painted in blue and yellow and a broad ring encircles the neck. The

lack of real observation in the depiction of this bird is obvious from the feet which, far from being webbed, are humanoid. The ring around the neck is a feature which recurs in Aegean art, for example on the bird on a large sherd from Phylakopi (Fig. 48) and on three of the waterfowl on the inlaid dagger blade from Shaft Grave V (Pl. 185). It may be derived from the drake mallard or from shelduck. On the Theran goose it is possible that the artist has hybridized greylag with Egyptian or Nile goose, *Alopochen aegyptiacus*.²⁴¹ It has been assumed that the waterfowl represented on Aegean sealstones was the Egyptian goose,²⁴² but there the identification was probably based on an inclination to view such scenes as Nile-inspired, rather than on ornithological evidence.



46. Jasper bead-seal from Knossos.

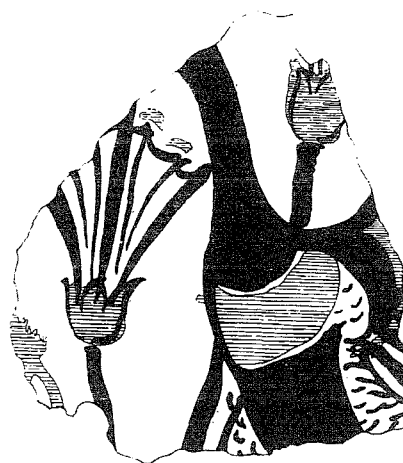


47. Fragment of a large clay vessel from Phylakopi.

Distribution of the Egyptian goose is restricted to the Nile (all year) and parts of northern Africa (in winter). However, modern distribution maps should not be rigidly applied to the Bronze Age environment. A number of the species represented by Egyptian artists do not occur in Egypt today (though some may have been imported for domestication). The wild or greylag goose, which is the main inspiration for both Theran birds, is more at home in the Aegean. Nowadays they winter in southern Greece but are present all the year round in north-eastern Greece.²⁴³

The Nile goose was kept by the Egyptians on ponds, as a pet and fowling decoy (Pl. 187), and for sacrifice, but not for food. The greylag, on the other hand, was, and the modern farmyard goose is derived from this species.²⁴⁴ Evidence for the domestication of geese in the ancient world comes largely from representations, for the recovery and identification of bird bones from excavations is relatively uncommon. No concrete evidence for domestication exists for the Bronze Age Aegean, the only physical remains of which I am aware being shell of goose eggs identified in an LH III tomb at Thebes.²⁴⁵ There are, after all, no Aegean depictions of birds being plucked for roasting or stuffed for pâté, as there are in Egypt (Pl. 188). The keeping of flocks of geese in Greece is first documented in the *Odyssey*;²⁴⁶ and by Classical times, domesticated geese were fattened and dressed for the table and the eggs eaten.²⁴⁷

The Theran landscape painting combines the wild and the domesticated, and there is no way of knowing for sure under which category the geese should be placed. There is a favourite stopping-place for migrating birds.²⁴⁸ But was the artist illogical in the depiction of a season? The deer's marking and the palm inflorescence indicate



48. Fragment of a large clay vessel from Phylakopi.

summer, but by present distribution patterns, the wild goose would be in the Aegean only in winter. Distribution of the wild bird may have shifted since the Bronze Age. However, it is quite possible that geese such as these were kept year round by the Therans for ornamental or culinary purposes, which would correspond with the interpretation of the setting as a garden or pond.

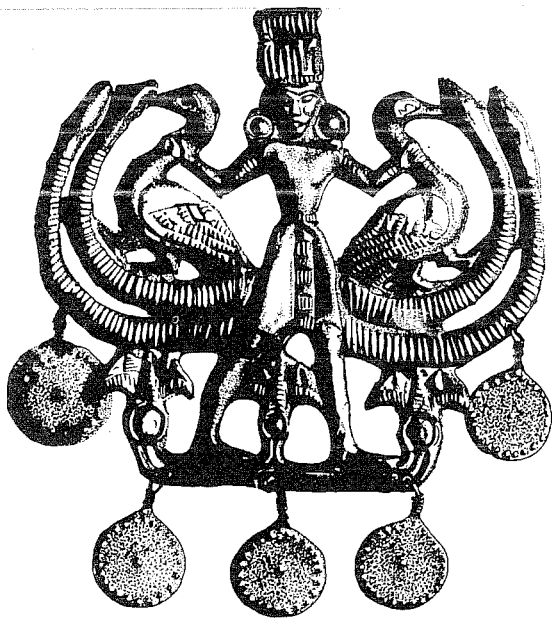
The context of the birds in The Landscape frieze is specific in terms of both natural environment and iconography. Geese are freshwater birds, congregating along marshes, rivers and lakes, where they feed on the seeds and rhizomes of aquatic plants. The most common iconographic association of waterfowl is, appropriately, with papyrus and reeds. Within the genre scene of cat chasing bird, to which this painting partly belongs, the birds are associated with papyrus only on the inlaid dagger from Shaft Grave V (Fig. 24; Pl. 185); it is, however, an association common to the Egyptian examples which served as the inspiration for this genre (Pl. 187; see Ch. 11). Bird and papyrus recur in a fresco fragment from Tiryns (above, p. 22, n. 57) and on some seals and sealings as in Fig. 46.²⁴⁹ Birds of unrecognizable species are depicted with stylized papyrus blooms on LM IIIa pottery.²⁵⁰ Of the remaining plants in the Theran painting, only reeds recur with waterfowl, as in the miniature fresco fragment from Katsamba²⁵¹ and on an LH I–II seal from Kasarma.²⁵² But rarely do the two plants occur together with birds. On two fragments of a large clay

vessel from the early excavations at Phylakopi,²⁵³ a bird with ringed neck stands among papyrus (Fig. 48), another amongst reeds (Fig. 47). The geese face in opposite directions, as in the Theran painting. Since rivers occur rarely in Aegean art, waterfowl are not often given their full environment. Two swans rest above a river on a seal in the Ashmolean (above, n. 236) as do waterfowl held aloft by a Mistress of Animals on another in the British Museum (Fig. 50)²⁵⁴ (cf. the same theme on the Master of Animals pendant, where the lotus plants below suggest a riverine setting (Fig. 49)).

Just as waterfowl feed on aquatic plants, so cats feed on waterfowl. This fact of natural history did not escape the notice of Aegean artists, and the chase between feline and bird was a common genre scene. Details of the theme are discussed in Ch. 11, and here the examples are simply cited. Cats chase birds in wall paintings from Ayia Triada (Pl. 182) and Knossos (Pl. 184); and they chase waterfowl on the inlaid dagger from Mycenae (Fig. 24; Pl. 185); on an ivory comb from Rutsi, near Pylos (Pl. 186); and on a Cretan sealstone (Fig. 25).

On the last of these, the motif of the bird preening its back is utilized, as it is in the Theran painting, engendering in the spectator an insecure feeling of the bird's oblivion to danger. The position is that in which a bird cleans and arranges its feathers. (Ducks commonly tuck their bills into their wing feathers for warmth and this is expressed in the rock-crystal duck bowl from Grave Omicron at Mycenae.)²⁵⁵

In spite of the lack of detail defining species, it is evident from these representations that the artists were well acquainted with ducks and geese. They noted accurately their environment, their enemies, their movements and their habits. There is nothing esoteric about the depiction



49. 'Master of Animals' gold pendant from the Aegina Treasure.



50. Jasper lentoid sealstone. Unknown provenance.

of these birds, they were simply a part of the Aegean world.

Dove

Doves, on the other hand, had an iconographic significance beyond that of environmental description. Those which occur in the miniature paintings are not live creatures in their natural habitat, but emblems. They occur only on the ships in procession: one on the prow of Ship 4, Pl. 96, several decorating the hull of the sailing ship (Fig. 14; Pl. 94). The birds lack anatomical detail or specific coloration. That on the prow may even be a combination of swallow and dove.

Doves are a common sight in Greece, two species being present all year: the rock dove, *Columba livia* (ancestor of the domestic pigeon) (Pl. 95), and the woodpigeon, *Columba palumbus*.²⁵⁶ Aegean artists may not have distinguished between the two.

Those on the ships are recognizable as *Columbidae* only by general shape and the black terminal bar on the blunt tail in Fig. 14. For more specific representations we must turn to paintings in which the birds are shown as live animals, notably the Birds and Monkeys Frieze from the House of the Frescoes (Figs. 22 and 51). The birds, identified as *Columbidae*, probably rock dove, by Cameron,²⁵⁷ have the grey coloration of doves rendered in pale blue, the black terminal tail bar, and the white cere (a membrane) between bill and crown.²⁵⁸ These features are common to both species. The bill is black and the eye yellow and red,²⁵⁹ both features applicable only to the rock dove. As in the Theran painting, the wing plumage is inaccurate for either species, with no indication either of the black stripes of the rock dove or of the white patches of the woodpigeon. A white feather on the tail

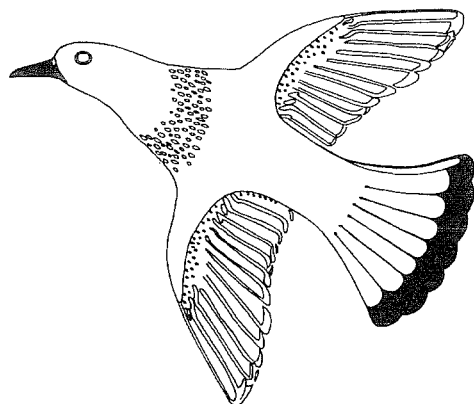
also appears on the Pylos Blue Birds.²⁶⁰ It is perhaps the white on the rump of the rock dove, misplaced. A 'collar' of purple-pink surrounds the neck (rendered in spots),²⁶¹ a feature common to several species, including the rock dove.

Blue birds occur among the wall paintings of Kea, and although they lack the natural setting of the Knossos painting, they represent the same species.²⁶² Amongst the later mainland paintings, doves occur at Pylos (stylized but in the same tradition) and in a fragment from Thebes.²⁶³ From the Throne Room at Pylos, a dove-shaped bird appears in front of The Lyre Player,²⁶⁴ but this is an invented bird with a crest on its crown and spirals on its neck.

Doves were more commonly represented by Cretan and Cycladic artists than by Mycenaean, occurring first in EM II-III (a seal from Koumasa),²⁶⁵ then on an MM II stone libation table from Phaistos,²⁶⁷ on seals from the MM II Hieroglyphic Deposit at Knossos,²⁶⁸ and as a sign in the pictographic script.²⁶⁹ The polychrome bird jugs ranging in date from MB II to LB I, depict a stylized plump bird which recalls the dove. The type is most at home in the Cyclades, with Phylakopi as the major source; one was found on Thera.²⁷⁰ In the Royal Road excavations at Knossos, an ivory model of a dove was found in an LM Ib workshop.²⁷¹ Some birds on LM II-IIIa pottery have the rounded crown, plump body and blunt tail of the dove.²⁷² From LH I, doves occur at Mycenae (n. 275) and from LH II, on a dagger from Prosymna.²⁷³

Birds in Aegean art may be isolated, without context, or set within their natural environment. Or they may have a more specific religious function.²⁷⁴ Birds were amongst the cult objects of domestic sanctuaries; and are shown alighting on the tops of columns, altars and horns of consecration (Pl. 117) and on the arms and heads of female figures.²⁷⁵ Birds as epiphanies of the gods are well known from later Greek religion, and this has led to a widely-accepted theory that representations such as these should be similarly interpreted.²⁷⁶ Perhaps it is more likely that Minoan-Mycenaean birds may indicate the sanctity of a place or a holy presence, or they may suggest messengers of the gods, or (as in the case of the Karphi idols) they may be attributes of a particular deity and thereby incorporated into the cult.

Some attributes or emblems could be applied to ships, as was the goose emblem in the Greek and Roman world; placed at the stern of the ship, the goose evoked Isis, protective goddess of seafaring. When the weather turned against Jason and the Argonauts, it was a sea-bird who perched on the ship's emblem to convey to them the need to propitiate Rhea, who held the winds and sea within her power.²⁷⁷



51. Bird, detail from the Birds and Monkeys Frieze, House of the Frescoes, Knossos. (After Cameron.)

But an association between birds, specifically doves, and ships has another more practical function. The bird on the prow in the Theran painting may have been a name device, an emblem used to identify the troop, the captain, or the geographical region of the sailors. But the dove-like appearance is pertinent. Doves have regular social habits, attuning their activities to the time of the day. Such habits make them easily adaptable to domestication, and their dependability and unerring sense of direction led to the utilization of the domestic species as carrier pigeons.²⁷⁸

It is easy to understand why Noah 'sent forth a dove' in order to find dry land.²⁷⁹ One of the natural habitats of the rock dove is along sea cliffs, so that with its particular

gifts of navigation it should not be difficult for the bird to find its way to dry land from the sea. In ancient literature the use of a dove as an advance navigator is not restricted to the Bible; it occurs in the other great flood legends in *The Epic of Gilgamesh* and the legend of Deucalion, as well as in *The Voyage of Argo* when Euphemus releases a dove from the prow to find a passage between the Wandering Rocks.²⁸⁰

There is also visual evidence for the utilization of birds (perhaps doves) as an aid to navigation; evidence which corresponds more closely in time with the Theran painting. Aloft the crow's-nest on a Syrian ship in a painting from the Tomb of Kenamun at Egyptian Thebes (c. 1450–1400) a sailor holds forward his hands in a gesture well known to trainers of carrier pigeons. Just in front of him, towards the prow of the ship, is the bird which he has released (Fig. 75). On another ship in a painting from the Tomb of Huy (late 18th dynasty) a bird is perched on the crow's nest, about to take flight (Fig. 95). From the Aegean, a sealstone (of unknown provenance) shows a two-manned boat with a bird hovering near the prow (Fig. 52). If, as these examples suggest, birds were sometimes used as navigation aids, their depiction as ships' emblems is comprehensible, particularly when placed on the prow as it is on the Theran Ship 4, and on ships represented on a Mycenaean sherd from Phylakopi,²⁸¹ on an LH IIIc stirrup jar from Skyros²⁸² and (doubtfully though it has been argued) on an LH IIIc sherd from Tragana at Pylos (Fig. 88),²⁸³ as well as on the ships of the Peoples of the Sea as represented at Medinet Habu.²⁸⁴ The prow, like the dove, leads the way. I would suggest that this may have been the main reason for using a dove-like bird as one of the emblems on the ships in procession.



52. Sardonyx lentoid sealstone. Unknown provenance. This side: men on boat with bird; reverse side (not illustrated): deer, lion (or bull?), figure-of-eight shield.

ARCHITECTURE

The evidence

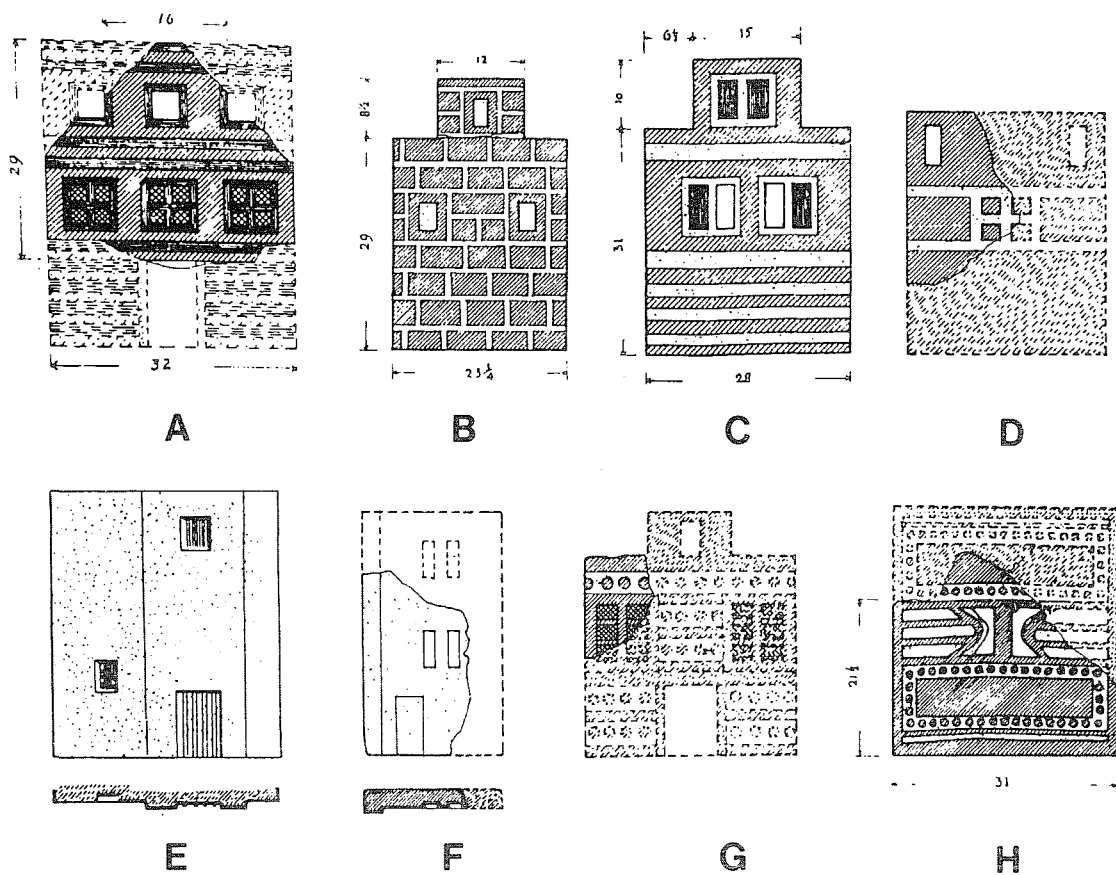
Comparative sources

The buildings of the three settlements in the miniatures are numerous and informative (Pls. 97–108). Hitherto, representations of houses in wall paintings have been fragmentary, shrines or palace façades being the more commonly depicted structures. At Knossos, the miniature scenes include important religious structures, notably the Tripartite Shrine,¹ but a fragment from the N.-W. Fresco Heap depicting women framed by windows is the closest we get to an idea of a domestic building (Fig. 57),² and this may be part of the palace rather than of an ordinary house. A fragment of a building from the Tylissos miniature fresco suggests that a town façade was one of the components³ but nothing more has survived. Shrines were depicted in both the earlier and later paintings at Ayia Triada;⁴ and parts of columns belong to the Palanquin Fresco and Relief Griffin Fresco from Knossos.⁵ This is hardly a significant count, and while more buildings have survived amongst the mainland paintings, they too are either fragmentary or generalized. At Mycenae, the Knossian theme of ‘women at windows’ occurs in the Megaron frieze⁶ and a fragment from the Ramp House.⁷ Also associated with women, in the Citadel House Shrine paintings, are columns, beam-ends and horns of consecration which must belong to a sanctuary.⁸ The impressive structures in the Megaron frieze suggest a palatial façade akin to the restored west side of the Central Court at Knossos,⁹ rather than a group of town buildings such as we see at Thera. Fragments bearing some resemblance to the Megaron façade recur at Orchomenos¹⁰ and at Tiryns.¹¹ From Thebes the fragment in Pl. 156 depicts a warrior at a window. At Pylos, ten fragments from eight contexts depict buildings.¹² The façades from the walls of Rooms 2 and 20 are sur-

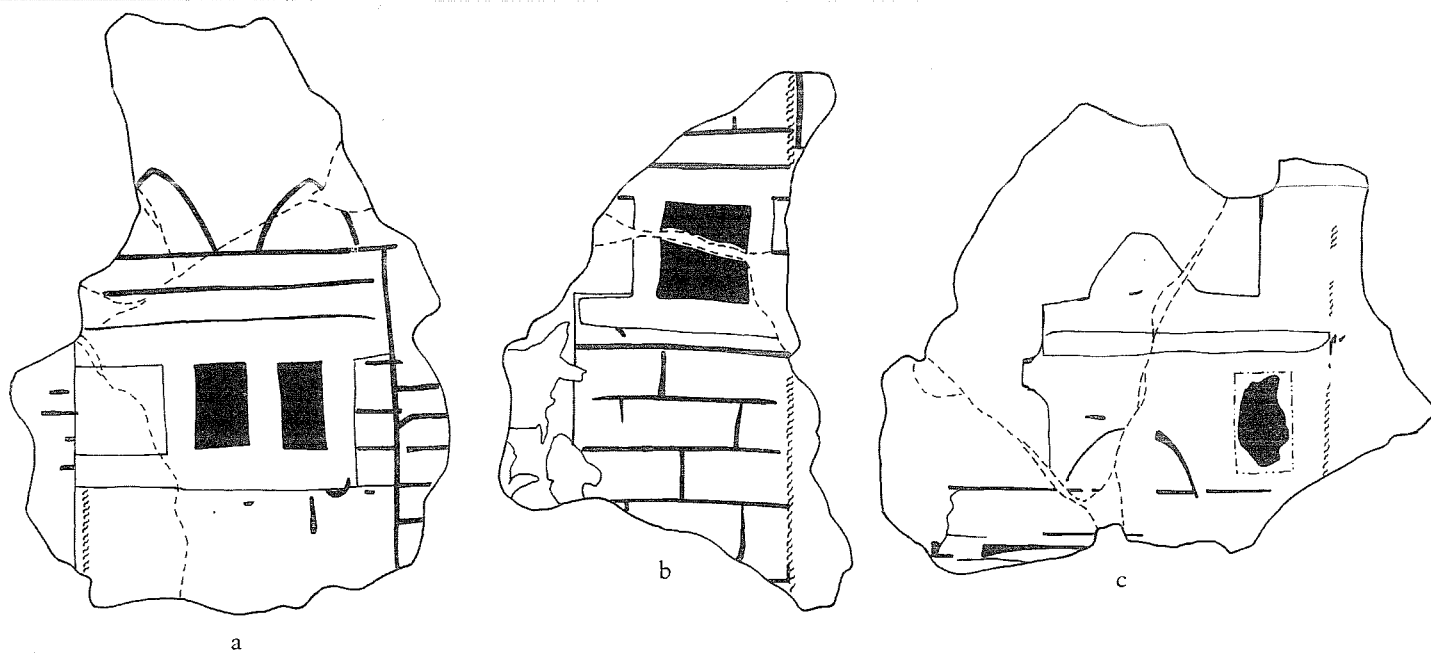
mounted by lions, sphinxes or horns of consecration and are likely to have been shrines. They occur in association with women and animals, a combination also found at Ayia Triada. A fragment of large-scale windows from Room 50 was associated with a life-size woman. The remaining fragments are mainly from rubble fill scattered throughout the Palace (e.g. Pl. 116).

The complex towns of the miniature scenes were by no means common even at Thera, where, amongst the numerous paintings, the shrines of the A 1 fragment (Pl. 25) and of Xesté 3 (n. 157) are the only other examples of built structures. The best surviving parallel to the settlements comes from the contemporary island site of Ayia Irini, Kea. In the miniature paintings several fragments of domestic buildings can be recognized (Fig. 54). They belong to two towns (on different scales) within a hill-side setting near the sea, the two perhaps placed at either end of a frieze, as at Thera.¹³

Town houses received only slightly more attention in other media. For the small surfaces of rings and seals, a shrine was not only a usefully diminutive structure but one which was frequently appropriate to the religious theme; naturally it was a more popular image than the house. But if too small a scale precludes the depictions of complex towns, so (for different reasons) does too large. It is no accident that the majority of representations of buildings in wall paintings belong to the miniature class. Furthermore, the subject of the scene must necessitate the depiction of urban living before the complex design of a number of houses is viable. Significantly, the two closest parallels to the buildings in the Thera paintings – the Knossos Town Mosaic (Fig. 53; Pl. 190) and the Mycenae Siege Rhyton (Pls. 119, 191) – share a common genre idea with one of the West House scenes (see below, Ch. 11). The Town Mosaic consists of a number of individual plaques used as an inlay, probably for a wooden



53. Faience plaques of houses from the Town Mosaic, Knossos, MM IIIa.



54. Fragments from the miniature wall painting from Ayia Irini, Kea, 3:4.

box. It is not known in what positions the inlays were arranged; but what they lose in overall effect, they gain in individual precision. The clear image of the elevations of Minoan town buildings are a useful aid in disentangling the massed structures in the paintings, for, as we shall see, there are many direct comparisons in the details. The plaques were dated by Evans to MM IIB, though they were found in an MM IIIa deposit to which, iconographically, they are more likely to have belonged.¹⁴ The ivory plaque from the Royal Road at Knossos in Pl. 112 is comparable, though later in date (it came from an LM IIIa context).¹⁵ To these miniature façades the remarkable house model from Archanes (MM IIIa) adds the third dimension (Pl. 111).¹⁶

The works listed above are the main sources of iconographic comparison which enable us to visualize the houses of Bronze Age settlements. In the Thera paintings we see, in particular, the combinations of surfaces indicative of the textures and colours of particular materials and the application of these materials for different storeys; the positioning of windows and the means of controlling light and air through them; and the use of windows, verandahs and rooftops as viewing places for the occupants. Such details contribute to the understanding of vernacular architecture gained by a study of the ground-plans and materials of lower storeys of excavated buildings. No site is more valuable in the present study than that of Akrotiri. The remarkable preservation of some of the buildings to two or even three storeys provides a unique opportunity for understanding the elevation, and the local architecture is bound to be reflected in the paintings which decorated its inner walls.

Perspective

The viewer, walking through a town, sees buildings in a constantly shifting perspective. The artist, however, must devise a means of presenting the town as a static unit in which the height and depth of the structures are comprehended as one. The third dimension is negated by the medium and the interpreter of the painting can be concerned only with the two-dimensional façade presented by the artist.

During the 2nd millennium, the universal approach to the representation of architecture was the simple application of a single viewpoint, centrally placed, to give the most information in the most economical form. A building was viewed frontally rather than at an angle, so that only one surface was necessary, thus eliminating problems of ambiguity or divergence. But a person standing in front of a building must inevitably look upwards to take in the whole façade, and divergence is once again a factor. The artists overcame this problem by viewing the building centrally as though the spectator were suspended in mid-air at a considerable distance. The same effect of flat-

tened perspective is observable when looking at a building through a camera with a long-focus lens or through binoculars. In this way the artist avoids the risk of misinterpretation of the building through its presentation in ambiguous guise.

In the case of the faience plaques, the houses are conceived individually and the solution need go no further. Presumably the impression of a 'town' was achieved simply by placing the plaques next to one another in rows or registers. In the painting, however, the artist was confronted with a complex problem of design in which an entire town complete with its inhabitants must be presented in a space no larger than 38 × 18 cm and 50 × 30 cm (the Departure and Arrival Towns respectively). The solution was to create a unified group of buildings which, in reality, would have been on different ground-levels and at different distances from the spectator of the scene. A large area of space is thereby incorporated into a single form to provide the maximum information in the minimum area. It is as though the buildings we see in sequence when walking through a town were viewed simultaneously.

Anyone who has travelled around the Aegean islands will recognize that the artist's solution was not purely theoretical but based also on observation of the rambling, rising towns built on sloping coastal sites. The mass of crowded buildings separated only by narrow winding streets which always seem to lead upwards are as much a part of modern Greece as they were of Bronze Age settlements such as Gournia or Akrotiri.

Analysis of the buildings necessitates separating this mass into individual units. This is not a simple task, for the compression of a number of structures into one solid area inevitably creates ambiguities and inconsistencies. The artist did not, of course, intend the spectator to dissect the picture into comprehensible details; such buildings were known and lived in and therefore understood without analysis. The scene is akin to the way in which we perceive objects rising up a hill, but much exaggerated. The artist has taken a horizontal plane – the distance between the spectator of the scene and the furthest building or hill in the picture – and tilted it upwards to present it vertically on the flat surface of the wall. (A fine comparative example is provided by the successive walls on the Zakros Sanctuary Rhyton, Pl. 117.) The device is variable and while the ships are artificially zoned into upper and lower lines, the buildings are woven into a complex system of overlapping forms. The main difficulty in interpretation lies in distinguishing between multi-storey structures and distant buildings. When a colour or surface changes, it is unclear whether we are dealing with the lower and upper storeys of a single building, or one building situated behind another. 'Objects above' and 'objects behind' are, of necessity, both

depicted above. Two factors help in deciding: (1) where a horizontal beam separates two areas, they are likely to belong to the same building (especially if the textures are representative of typical changes in materials between the two storeys); (2) when a building obscures part of the structure beside it/above it, it is obviously intended to be read as 'in front'. Even so, ambiguities pertain: (1) the beam may be representative of a string-course (separating two storeys and corresponding to the ceiling/floor) or a cornice (crowning the top of the building); and the upper area of contrasting texture may be the upper storey of the structure immediately below, or the upper storey of a two-storey building behind whose ground floor is obscured from sight; (2) façades are rarely straight in Minoan architecture and projections and indentations would cause a similar appearance of overlapping surfaces when the façade was viewed from directly in front. To compound the problem, the wish to give an appearance of 'many buildings' led to a shorthand device of cramming in parts of buildings – doorways, groups of windows, isolated walls – alongside depictions of entire façades. The whole is like a jig-saw in which the artist had to find a form to fill each space.

With these problems in mind, I have drawn what I take to be the individual structures in the towns (Nos. 1–46 in Pls. 98, 100, 102, 104, 106) to enable the houses to be viewed separately rather than as a conglomerate. Not all the numbered forms are entire buildings, and some may be related; where this is likely, an arrow indicates the connection.

A number of different types of buildings can be recognized. No. 11 is a tower-like edifice; Nos. 45–6, a massive wall and gateway; No. 33, a rock-cut structure. Others suggest a porch (Nos. 4, 6, 10, 19); No. 18, a wall; No. 40 windows. No. 39 may be a stairway; and No. 34, a shrine with steps. Nos. 30–2 are lookout-posts perched on the top of the coastal hill. Of the houses, some are simple one-storey buildings, others are two-storeyed (as No. 11). Those in the upper plane of the picture frequently suggest upper storeys viewed over the tops of the buildings in front. The peculiarities of the different scale between buildings and people need not concern us here, for the buildings are consistent within themselves; thus the tower is larger than the houses, the outlying buildings smaller. Relative scale can, therefore, be used as an indication of the importance and use of each structure.

Building materials

Many of the buildings have horizontal courses delineated into blocks which are likely to represent brickwork, but some must be intended to show the more luxurious commodity stone. The choice is rarely unequivocal. The large

blocks of the coastal building No. 3 suggest dressed stone, as do the piers of the pastoral building No. 1, the quoins of the tower, 11, and the jambs and lintel of the doorway on 29. The only certain use of ashlar masonry is in the wall of the Arrival Town (45 and 46). A number of buildings are textureless at ground-floor level (e.g. 11) which suggests a rendered surface over rubble masonry.

Stone

Choice of building materials is obviously dependent on locally available sources. Stone, in particular, cannot be hauled long distances, unless carried by ship and then only in small quantities. For ashlar masonry, only free-stone (rock which can be cut in any direction) is suitable. In the Mediterranean region the most widely available rock of this quality is limestone, which was used throughout Crete in the Bronze Age, along with sandstone and gypsum.¹⁷

On Thera, locally available material differs from that of Crete. Sandstone and gypsum do not exist on the island. Limestone occurs in the metamorphic ridge in the south-east (cf. p. 33) but there was neither sufficient quantity nor a near enough source for it to be a viable building material on a large scale at Akrotiri. Andesite, the most common pre-eruption lava rock of the island, is too hard and unresistant to have been of service. The results of an examination of the rocks used in the buildings of Akrotiri were presented by H. C. Einfalt at the 1978 Thera Congress.¹⁸ The majority of the stone construction consists of volcanic rocks obtained locally. Red-brown to black scoria was used extensively for the walls (including those of the West House), and today outcrops a few kilometres west of the site at Cape Mavros. Pebbles of volcanic stone were used in the walls. A 'porous lava' of the same colours as the scoria was used for, among other things, corner-stones and window-cases of the West House; ignimbrites of a deep brown hue were used for the same purposes and for door-sills; whitish/greenish tuff was sometimes used as building blocks and for window-cases; and hornblende, of light grey, occasionally for door-sills. Most of the metamorphic rocks of the island were utilized to a small extent. Limestone and marble of whitish and reddish hue were used in some of the walls; schist, of light green, was occasionally used for door-sills and, of course, floor-slabs. Imported gypsum was used for floor-slabs in Room 1 of the West House and in the House of the Ladies; and analysis of the composition suggests marked affinities with the gypsum quarry south of Knossos.¹⁹

Masonry

The majority of stone-built walls in Minoan Crete are of rubble masonry. Foundations are invariably of rubble as are the basement/lower storey and the interior walls;

while at Phaistos and Ayia Triada it appears that rubble was used instead of mud brick in the upper storeys. The rough, uncut stones were bonded together with mud or clay, sometimes packed with smaller stones to fill the interstices. Frequently timber was used to reinforce the structure and, in most buildings, some or all of the walls were plastered (see below). Rubble masonry can be formed of irregularly shaped stones placed in random courses or an attempt can be made to choose stones of approximately equal size and shape for each course. Coursed rubble walls belonging to the MM period have been noted in Crete.²⁰

Coursed ashlar masonry was first used by Cretan builders in the construction of the early palaces, but it was not common until MM III–LM I, at which time it was used in the important settlements and country houses as well as in the palaces. Amnisos, Nirou Chani, Archanes, Tylissos and Ayia Triada all have good examples.

The majority of the buildings at the site of Akrotiri were built of rubble masonry with mud brick for the upper storeys. There is, however, a remarkably large proportion of ashlar construction on the site, concentrated mainly in the east and south of the excavated area (see plan in Fig. 1). Occasionally a single wall of a building is of ashlar, always when facing onto an important public area, such as a court or road. The lower section of the north wall of Δ 5–4 (Xesté 1) is of ashlar, while the upper section was of mud brick and the west wall entirely of rubble masonry.²¹ A small section of the area B–I is partially constructed in ashlar,²² as is the west wall of the polythyron, Δ I.²³ The massive gateway (or pylon) on the south side of the square and the northern end of Telchines Road is constructed in ashlar. Marinatos describes the thick section of wall to the side as ‘of fortified construction’.²⁴ On the east side of the excavation there are three ashlar buildings. Xesté 5 is only partially excavated on its western façade (north-east of area Δ).²⁵ To the south of this, Xesté 2, as published, presents two imposing façades on north and west sides.²⁶ Between these two buildings and slightly to the west is an ashlar façade belonging to the upper storeys of area Δ and facing onto an open area on the east.²⁷ To the south, Xesté 4 is an imposing building with both basement and upper storeys of ashlar masonry on the excavated north and west walls.²⁸ Finally, on the south-west edge of the excavation, Xesté 3 has a basement of rubble masonry but upper storeys on all the excavated outer walls – east, south and north – of ashlar construction.²⁹

The plan shows that ashlar masonry was used at Akrotiri for groups of important buildings with long uninterrupted façades (the eastern sector) and for isolated structures in strategic positions. It was used for

entire walls, as a base for an upper storey of mud brick, and for upper storeys over a basement of rubble.

Brick

Throughout the excavations at Akrotiri, Marinatos reported finding quantities of crushed unbaked brick which had been used in the construction of the upper storeys.³⁰ There is no evidence for the regular use of fired bricks in Aegean architecture;³¹ but throughout the Bronze Age sun-dried bricks were a common building material, both for poorer houses and (as at Thera) for the upper storeys of grander buildings. They were not used on ground floors carrying weight from above, as the material lacks sufficient strength. The bricks were made of mud mixed with water and a binding element, usually straw; as they were of fairly regular dimensions at each site, it is thought that they were made in moulds. A bonding layer of mud or clay was spread between the courses.³² The dimensions of one of the best preserved bricks at Akrotiri were: 56 cm long, 30 cm wide and 9 cm thick.³³ This falls within the size range arising from Shaw’s study of Minoan bricks,³⁴ while falling outside the earlier range suggested by Graham.³⁵

In representations of house façades, it is not always clear whether courses of rectangular blocks are intended to be read as brick or stone walls. Scale is, once again, deceptive, and only where there is a difference in relative size between blocks can it be useful in interpretation. Where there is no such comparison, as for example in the Kean fragment in Fig. 54b and the towers on the Zakros sealing in Fig. 56, the courses remain ambiguous. But in the massive gateway and walls of the Arrival Town, the large stone blocks of the wall contrast with the four courses of small white blocks above the gate suggesting brickwork. The large wall with wailing figures on the Siege Rhyton (Pl. 191) is built of regular courses of stone, presumably since this is a defensive structure. The towers above it appear to be rendered, but in another fragment (Pl. 119) a balcony (?) is composed of interlocking structures that may represent brick with wooden struts.³⁶ Several of the façades in the Town Mosaic have courses which could be brick (Fig. 53 B);³⁷ they compare with small free-standing walls supporting horns of consecration on both the Zakros Sanctuary Rhyton (Pl. 117) and the relief serpentine fragment from Knossos in Pl. 18. Of the latter, the neat horizontal courses contrast with the irregular slanting courses of the retaining wall behind, which is indicative of dry-stone walling.

In these examples the brickwork is of stretcher bond, i.e. only the long sides (known as stretchers) are visible and the short sides (headers) have been joined end-to-end. In brickwork today it is more common to see stretchers and headers used alternately, thereby breaking

up the pattern of the wall surface. A unique example of this may be seen in the faience plaque B in Fig. 53, where, while the majority of blocks are long, the bricks at the corners of the walls are generally short as are those in the lower of the courses between the two central windows. This façade may depict incised or painted lines on plaster (see below), but if it is intended as brickwork then the laying of the courses is original.

The coursed blocks in the paintings are somewhat haphazard in appearance, with slanting lines sometimes used for the vertical joins and varying widths for the courses. It is conceivable that they represent the stones of rubble or roughly dressed masonry, rather than brick, but the fact that all the areas which use this method belong either to upper storeys of buildings (Nos. 11–13, 16, 20?, 22, 26), small single-room structures (Nos. 5, 8, 31) or (in the case of No. 18) a small (garden or yard?) wall, suggests the use of the humbler material, brick. One notable fact, however, is that these surfaces are left uncovered, unlike the rendered surfaces of many of the lower storeys.

Plaster and paint

A large number of the façades in the paintings are without texture, suggesting a smooth rendered surface, possibly painted. The majority are blue, two are yellow ochre (Nos. 17 and 27) and a small section of No. 34 is red. They occur more frequently in the Departure Town, where a characteristic of the blue surfaces is the placing of slit windows in single or double pairs (Nos. 11, 13, 15, 23). Although more commonly on ground-floor walls or single-storey buildings, they may also be applied to upper storeys (unless Nos. 15, 17, 23, 25 are distant single-storey buildings placed above those in front). Nos. 11, 13 and 23 are within a frame of corner-stones, the others are rendered to the edges.

The application of plaster to external walls may have two functions: as a protection against the elements and as a disguise for poor materials. In many cases both functions are applicable. Mud brick and wood require protection against rain and damp; on the former to prevent seepage through the joints, in the latter to avoid shrinkage of the wood owing to its expansion during damp weather and contraction during dry. Both are humble materials which are sometimes covered to give them a grander appearance. Rubble masonry creates a coarse, uneven appearance which, while it may be pleasing to modern eyes, is usually considered inferior to a smooth homogeneous surface. The application of plaster fills in the crevices, smooths the outline and obliterates the irregular shapes of the stones.

Both brick and rubble walls were plastered on the interiors during the Bronze Age in the Aegean, as indeed they are today. Clay and, above all, lime compositions

were used, though not gypsum.³⁸ Sometimes the faces of the walls were plastered over first with a thick layer of mud, similar to the bonding mortar, which both protected the wall and evened out the surface; this was followed by a thinner layer of fine white lime plaster with a base of burnt calcium carbonate or burnt limestone.³⁹ On Crete, the earliest painted plasters (invariably red) come from EM II contexts at Vasiliki, Myrtos, and Knossos.⁴⁰ The quality of the lime plaster had greatly improved by the time of the Akrotiri settlement and a fine smooth plaster had been developed which could be used on interior walls as a base for the murals.⁴¹ Even so, mud plaster was sometimes considered sufficient covering for less important walls.⁴²

At Akrotiri, the exterior and interior of basement walls were covered with clay mixed with straw, though occasionally they were plastered, like the interior upper storeys.⁴³ Plastered walls were white or sometimes painted red or yellow.⁴⁴

Although few representations of buildings show rendering, there are notable exceptions. A large number of the façades in the Town Mosaic have a rendered surface alternating with beams and interspersed with windows (Fig. 53, A, C–D). This is comparable to the Akrotiri buildings themselves. Pl. 110 shows how the rendered surface may be broken up by wooden beams (here reconstructed) with a stone string-course dividing the two storeys. On the main façade of the West House the rendering is punctuated only by windows and the doorway (Pl. 109). In the Town Mosaic the surfaces are painted white, reddish, or dark grey,⁴⁵ the grey being equivalent to the blue surfaces in the Thera painting. The Archanes house model has a smooth surface with incised lines marking off windows and quoins. This impression of rendering is contrasted with the brickwork of the verandah (Pl. 111 C, right). The towers on the Siege Rhyton are smooth-textured, and punctuated only by small windows, cornices and/or string-courses (Pl. 191). In wall paintings, the best preserved examples of rendered surfaces are on architectural fragments from the miniature paintings of Kea (Figs. 54a and c). Once again, the façades are broken by windows (Fig. 54a) or string-courses (Fig. 54c).

Decoration

One purpose in plastering a façade is to cover a humble material in grander style. When cut stone, always an expensive commodity, became fashionable during the Georgian period in England, a cheap substitute was devised by covering brick façades with plaster, which was then incised with lines to imitate stone-work.⁴⁶ The same effect can be seen on many 20th-century concrete buildings. It appears that this technique, doubtless for the

same reason, was operative in the Aegean. An example of plaster incised in simulation of the joints between courses of ashlar masonry was found at Mallia⁴⁷ and another at Phaistos.⁴⁸ Lawrence suggests something similar on the basis of the Town Mosaic façades. The 'large blocks of stone' on some, he considers, may be 'an effect produced in stucco on actual buildings';⁴⁹ at the same time he draws attention to the fact that the horizontal 'beams' on some of the buildings are at too close intervals to represent half-timbering and concludes that Minoan builders drew patterns on the plastered façades of houses.

This suggestion is borne out by the Theran painting. On Nos. 21, 29, 30, 34, 35, 37, 38 and 43 the façades are broken by rows of horizontal lines. Unlike those in the Town Mosaic (Fig. 53 A, C, D, G) these are not given alternate tones suggestive of two materials (whether simulated or real) but are simply lines on a monotoned surface (usually red).⁵⁰ In terms of materials, if this were a faithful rendition it should be of wooden planks laid edge-to-edge or overlapping as in weather-boarding. However, there is no evidence in the Aegean for the use of weather-boarding, which is a northern tradition, and timber was always in short enough supply to be reserved for structural members. The lines are, therefore, most likely to have been incised into plaster rendering, in an attempt to add variety to the buildings.

Paint was certainly applied to some external walls, and for this purpose even the grandeur of ashlar masonry was sometimes covered with a layer of plaster,⁵¹ though doubtless at a later date than the original construction.

We now come to the anomaly referred to above, i.e. that the upper storeys of the buildings in the Departure Town are composed of coursed blocks while the lower storeys are more frequently rendered (see in particular Nos. 11 and 13). Evidently the architects desired to vary the texture and colour of surfaces and the most convenient way of doing this is to contrast the storeys. As basements were most commonly used as storerooms or workshops and the upper storeys were mostly the residential and grander rooms, it is natural that the latter should be emphasized on the exterior. Once again, an analogy may be drawn with European architecture, in this instance with that of the Italian Renaissance. In some of the most important buildings at Akrotiri, upper storeys were constructed in ashlar masonry;⁵² in Xesté 3 this was, unusually, superimposed on to a rubble basement. The majority of the buildings were, however, composed of a rubble basement with mud brick storeys. Rendered rubble masonry applied with paint is presumably what is intended by the blue textureless basements in the painting. We need not believe that they were actually painted blue. Although occasionally in modern Greek villages houses are painted in bright blues and

pinks, in this case it is probably an expedient of the artist to vary the pattern of the towns, and the more likely colours in reality are white and, in the case of Minoan Crete, red.

The lower storeys, then, are comprehensible, but the upper storeys are more confusing, for although some are evidently rendered, many have coursed lines indicative of blocks of stone or brick. Mud brick, however, must be covered with something (mud or lime plaster, weather-boarding or paint) in order to protect it from the elements. These would be damp rooms for grand living if they were left without protection. So how are we to interpret the lines on, for example, Nos. 11 and 13? The choices are: (1) as ashlar masonry, as in the upper storeys of some of the Akrotiri Xestai; (2) as coursed and carefully sized rubble masonry; (3) as plastered surface incised with lines in imitation of stone; (4) as mud brick covered only by whitewash. The last is the most plausible: for ashlar the blocks are rather small; for rubble, rather too regular; for incised lines, too detailed. A coat of whitewash, periodically renewed, would afford some protection to the brickwork while retaining the original appearance of the material in all but colour. That the majority of these upper-storey surfaces are coloured a neutral cream agrees with this assumption.

The most elaborate decoration is that of the massive gateway in the Arrival Town (No. 46). Although the broad lintel is undoubtedly a structural component spanning the entrance and bearing the weight of the storey above, the surface with its rows of so-called beam-ends in concentrated patterns is surely applied decoration without structural significance. This may have taken the form of sculptured stone or painted plaster, or a combination of the two. The most famous examples of sculptured decoration above gateways are those of the Lion Gate at Mycenae and the entrance to the Treasury of Atreus. In spite of the considerable gap in time (in the region of 200 years) between their construction and the date of the Theran paintings, a notable feature of all three is the inclusion of beam-ends in the decoration.⁵³ A recently excavated tholos tomb at Kokla was found to be painted above the entrance lintel with beam-ends in red and blue. This is one of the earliest surviving Mycenaean wall paintings.⁵⁴

Imitation of expensive building materials – wood and especially variegated stone – has survived from many interior walls, the alternating 'stone-and-wood' dado of Room 5 in the West House being a notable example (Figs. 3–4).⁵⁵ Iconography adds to this knowledge by providing many examples of representations of external decoration. The Sanctuary Rhyton from Zakros shows carved spirals on the stone shrine (Pl. 117) – an antecedent of the real carved spirals of the Treasury of Atreus and the

ceiling of the Treasury of Minyas tholos tomb at Orchomenos⁵⁶ (just as the sculptured half-rosettes from the north-west gate of the Palace at Knossos are antecedents of those of the Treasury of Atreus).⁵⁷ Although architectural conglomerates have not survived in wall paintings outside Thera, a large number of sites have provided fragments depicting buildings, and, of these, the majority show the external surface to be decorated. In many cases, the presence of horns of consecration (discussed below) indicates that the area depicted is of a sacred nature, and several of the fragments could be interpreted as surface areas above an entrance. It is notable that of all the buildings in the Theran paintings, it is only the area above the massive gateway that has been given such detailed surface treatment. Immediately adjacent to the gateway is a row of horns of consecration.

In the comparative fresco fragments, the common components of the decoration are: beam-ends, half-rosettes, horns of consecration, chequers, piers with interlocking blocks in alternate tones, and the presence of women at windows. The first three components and the last are all present in the gateway complex. Piers with alternate blocks occur on the tower of the Departure Town (No. 11) but not in the area under discussion. The constant recurrence of these juxtaposed elements suggests a significance beyond that of iconographic repetition; the key lies in the sacral horns of consecration.

The decoration of the Theran gateway is superimposed on a base colour of yellow ochre and comprises: a rectangular area of white which has, cut into it at either end, a half-oval (in yellow ochre) with horizontal internal lines. The form of this white area resembles, and is probably intended as, an elongated version of Minoan–Mycenaean altars, like those of the Lion Gate decoration at Mycenae. Within the white are two horizontal rows of solid circles (the feature generally referred to as imitation beam-ends) complemented by additional ones at the apex of each of the half-ovals. The half-oval with horizontal lines is directly related to the half-rosette motif. Above this, continuing on a base of yellow ochre, is a single narrow strip of white filled with a row of beam-ends. In the upper storey the central double rectangle in red ochre and blue which separates the two sides of brickwork and windows is also likely to be painted decoration. This does not, however, comply with the usual associative elements referred to above.

The closest parallel to the half-oval with horizontal lines and its association with a rectangular block with rows of beam-ends is not in a wall painting but in two of the plaques of the Town Mosaic (Fig. 53 H).⁵⁸ Rows of beam-ends recur on other plaques (Fig. 53 G). Their close spacing – sometimes virtually covering the façade – makes it impossible that the circles represent real ends of

wooden beams used for structural purposes and left exposed, though the design would most likely have been based on this feature of Minoan architecture. In contrast, the four beam-ends on one of the sides of the Archanes house model are indeed likely to represent a structural feature as they correspond to the string-course dividing upper and lower floors (Pl. 111 D).

The Town Mosaic is unusual in that the beam-end decoration is utilized without being associated with an entrance (gate, door, entrance to a tomb) or a religious edifice (shrine, consecrated building, tomb). A terracotta shrine from the Loom Weight Basement (MM IIB) is decorated with a white horizontal strip painted with imitation beam-ends (Pl. 114). The strip is comparable to that above the Theran gateway, for, corresponding to a string-course and surmounted by a storey with windows, it nonetheless projects beyond the ends of the edifice. The strip continues around the sides of the structure; and decorating the sides of the upper storey are vertical rows of beam-ends. Beneath the horizontal beam-end strip, the surface is decorated with chequers. Horns of consecration stood on the top of the shrine.⁵⁹

From a tholos tomb at Volos, a gold façade of a tripartite shrine depicts rows of beam-ends on either side of and crowning the central doorway (Pl. 115). The broken pieces of gold at the top of the structure may have belonged to horns of consecration. On a sealing from the Little Palace at Knossos, a shrine is composed of an entrance supported by pillars, a lintel, and a cornice crowned with horns of consecration (Fig. 59). The lintel is decorated with rows of beam-ends. To the left of the shrine is a smaller structure with horns (a side to a tripartite structure or a separate altar). The sealing is broken at this point, but the arm of a votary lifted towards the shrine can be seen. The composition bears some relation to that of a woman approaching an altar and shrine on the Ayia Triada sarcophagus. Here chequers support a pole with a double-axe on top of which a bird perches. The shrine itself, which stands behind this, is decorated with spirals and, along the cornice, a row of alternate-coloured beam-ends. Surmounting the beam-end decoration is a row of horns of consecration.⁶⁰

That the significance of beam-ends as a religious feature could be extended beyond architecture is suggested by the sealing from Pylos in Fig. 30. The two priestly figures flanking a lion are standing on a base comprising rows of circles evoking beam-ends. The resemblance is unlikely to be coincidental, for on the Tiryns Offering Ring the base line is composed of that other familiar architectural motif: the half-rosette.⁶¹

The half-rosette is implied, if not fully developed, as a motif in the Theran gateway. As we have seen, half-

rosettes decorated the north-west gateway of the Palace at Knossos and, associated with beam-ends, formed part of the stone decoration above the entrance to the Treasury of Atreus (nn. 57 and 53, above). The two decorative elements were applied equally to gateways and to shrines. An example of the half-rosette is provided by the gold ornaments of tripartite shrines from Shaft Graves III and IV at Mycenae.⁶² These, too, are surmounted by horns of consecration. On a sealing from Zakros a shrine in the form of a gateway has half-ovals above the lintel (the lions flanking the gateway provide an antecedent to the Lion Gate at Mycenae).⁶³

It is in wall paintings that the associative elements referred to above are most in evidence. Amongst the Knossos miniatures, one of the Pillar Shrine fragments from the 13th Magazine includes beam-ends in the entablatures, alternate-toned piers, and horns of consecration; while the Tripartite Shrine of the Grand Stand scene incorporates half-rosettes, alternate-toned piers, chequers, and horns of consecration.⁶⁴ Women spectators are, of course, an important part of the latter scene, even more so than at Thera. In another fragment, a woman stands on a verandah (Fig. 58); the architecture surrounding her consists of alternate-toned piers, cross-hatched surface (cf. Pl. 116, Pylos, and Pl. 156, Thebes) and a row of alternate-coloured beam-ends above. A further small fragment associates beam-ends with horns of consecration.⁶⁵

From Ayia Triada, in the painting of Woman Seated by a Shrine from Room 14, beam-ends and horns of consecration form part of the shrine.⁶⁶ In the Procession of Women in Front of a Sanctuary, the same combination of beam-ends and horns of consecration can be seen.⁶⁷ Beam-ends are also visible in a structure in the painting of Woman Leading Deer.⁶⁸

The clearest use of beam-end decoration in a religious context comes from the Citadel House Shrine paintings at Mycenae. The east wall, painted with goddesses and/or votaries, is subdivided at right angles by a platform in the form of a low dividing wall. We may imagine offerings placed on top of this platform. It is decorated with a bold architectural image: the lower part has not survived but fragments indicate a plain white 'wall' surface, above which is a row of horns of consecration. The lower woman on the east wall looks reverentially towards this image.⁶⁹

Also from Mycenae, the Megaron Siege scene incorporates beam-ends with chequers and alternate-toned piers, associated with women at windows (n. 6 above). The architectural elements parallel those of the similar scene from Orchomenos: beam-ends in blue and red, half-rosettes, chequers and alternate-toned piers (n. 10).

The architectural fragments from Tiryns are too slight

to yield much information, but include rows of decorative beam-ends in alternate colours. One fragment appears to be of a tripartite structure. The central area is an entrance, the beam-ends running above the lintel. The surviving side-structure also incorporates beam-ends.⁷⁰ The other fragment may also be part of an entrance, the beam-ends running above a horizontal member.⁷¹

Several fragments from Pylos incorporate beam-ends. A large-scale frieze with alternating black and orange-brown circles (c. 32 cm diameter) ran along corridor 45.⁷² Beam-ends occur in association with alternate-toned piers in another fragment.⁷³ Of particular interest is the fragment illustrated in Pl. 116. Unfortunately, its iconographic context is unknown as it is an isolated piece from an older rubble fill.⁷⁴ The associative elements of beam-ends, half-rosettes, horns of consecration and alternate-toned piers are all present; the lay-out, with the horns at a lower level and to the right of a row of beam-ends, is analogous to that of the Thera gateway. From two separate areas of the palace came paintings containing elements paralleled by those of the Ayia Triada paintings mentioned above. The Inner Propylon was painted with a shrine with beam-ends above the entrance and alternate-toned piers on either side. This was associated with women and animals (deer and horses).⁷⁵ From Room 20 came a fragment of a façade with beam-ends and chequers; rocks indicative of landscape overlap the base of the façade and suggest that it belonged to a country shrine. Associated fragments include deer at an altar, horses and possibly a woman.⁷⁶ The elements of shrine, deer, women are therefore comparable to those of two of the Ayia Triada paintings, and beam-ends appear in all examples. An architectural fragment with beam-ends from the Vestibule is thought by Lang to have come from the rubble wall-fill. If, however, it did bear a relation to the last decoration of these walls it would have been in association not only with a female figure but also with a procession of men.⁷⁷

The evidence indicates that the application of painted beam-end friezes to external walls is not, as is usually assumed, a merely decorative imitation of a structural feature, but is applied to specific structures with associative connotations. Entrances and shrines are the two structures treated in this manner. The two are not unrelated, for the shrine-structure itself comprises piers supporting a decorated lintel, cornice, and usually horns of consecration. The area below the lintel may be a filled-in decorated surface or it may be a niche, but the overall appearance is analogous to an entrance. The Thera gateway complies with this general principle; the beam-end and associated half-rosette decoration is placed above the gateway, and the row of horns of consecration immediately to the right indicates the sanctity of the area.

A third component common to many of the architectural façades containing a beam-end frieze is the presence of women either as spectators (Thera, Knossos, Mycenae Megaron) or as votaries (Ayia Triada, Mycenae Citadel House, Pylos).

Wood

As a structural element, wood is evident in the yellow ochre door jambs and lintels of buildings Nos. 4, 7, 10, 14, 19, 28, and in the door itself on No. 29. The dark rectangle within the yellow surrounds may indicate that the door was painted in contrast to the jambs and lintel, or it may be that the entire area – yellow and black – represents a doorway panelled in contrasting paint. Wood must be implied for the jambs, mullions and transoms of the windows. A yellow ochre surround is utilized for the window complex of the upper storey of the tower (11) and of the gateway (46), and also for Nos. 40, 41, 42, 44. In other cases, the wooden surrounds are likely to have been covered with plaster and paint; this would in any case be a useful protection against the problems of expansion and contraction.

Evidence for the use of wood for doors and windows survives at Akrotiri in the form of mortise holes in the stone surrounds which held the wooden dowels, and in prints left by the wood itself. Referring to a window in A 1, Marinatos comments: '... on either side of the wall, the traces of small upright square beams could be seen, between which pebbles and clay formed the jambs in the walls for the construction of the frames of the window'.⁷⁸ The thickness and quality of the beams could sometimes be determined by the prints. From a window in Xesté 1 (Δ 5): 'the thickness of the beams did not exceed 15 or 16 cm. The wood of the sill was an unsmoothed and bent trunk or branch of a tree and its right extremity was bifurcated'.⁷⁹ In the Γ quarter: 'the wooden jambs of doors and windows were stems sawn into two parts longitudinally. The sawn part was put in the façades, while the convex side of the wooden stem faced the wall. The plastering made it invisible'.⁸⁰ Wood was used for partitions and slats within the windows, as discussed below.⁸¹ Although Shaw has argued that there is little archaeological evidence to support the original suggestion by Evans that wooden window-partitions were utilized at Knossos, he does point out that windows represented in wall paintings and the Town Mosaic have such partitions.⁸² They appear also on the tower-like buildings on the Siege Rhyton (Pl. 191). Multiple partitions are evident in the windows of the Theran buildings Nos. 11 and 46.

Wood is rarely visible in other structural elements, for it would have been covered by plaster and paint and therefore not included in the façades. It is, however, cer-

tain to have been used in the construction of floors and roofs and, judging by the archaeological evidence, as reinforcement beams within the walls.⁸³ The string-course dividing the storeys of the tower (11) is painted in yellow ochre and may be intended to represent wood. The same can be said of the cornice/roof on several of the buildings in the Departure Town (Nos. 11–13, 15–17, 25–7). The blue beam crowning other buildings may represent painted wood. In the tiered structure of the Arrival Harbour (33) the blue horizontals are likely to represent wooden structures, though certainly no single beam could have spanned such a width.

The Akrotiri excavations suggest that the wooden beams used in roofs and floors were strong, closely spaced, and with an average thickness of 15–30 cm; in the West House, small holes near larger spaces belonging to the floor beams give evidence for the use of wooden pegs to fasten the beams.⁸⁴ Throughout the site were found traces of wooden frameworks used to reinforce the walls.⁸⁵ In many cases this consisted of beams running transversely through the width of the wall, visible on the façade merely as circular ends and probably covered by rendering; but some beams were placed running along the surface of the wall.⁸⁶ Such usage of wood is clearly visible in the Kean fresco fragments in Fig. 54c. It is not a feature in the Theran paintings, except in the case of the tower (11). At Akrotiri, the string-courses in ashlar buildings were of stone,⁸⁷ as one would expect. Wooden horizontal beams are more a feature of rubble masonry or mud brick, and as both these would generally be rendered, the beams would not be visible. Hence their absence from the paintings.

The corner-stones (quoins) of the tower (11) are alternately coloured in yellow ochre and black. The decorative effect of alternating tones was exploited in the architecture represented in other Minoan–Mycenaean wall paintings (e.g. Fig. 58; Pl. 116, fragments from Knossos and Pylos): alternate-toned piers occur alongside painted façades which include such features as beam-ends, half-rosettes and chequers (as discussed above, p. 76).⁸⁸ On these piers, the dark strip is usually shaped like a mortise and the light strip like a dowel. While it is possible that the alternate tones represent different types of stone or painted strips on a uniform material, the mortise-and-tenon appearance is a persuasive indication that stone was alternated with wood. The archaeological evidence provides no examples of stone dowels, so that when mortises occur in stone it is clear that they were intended for the insertion of wooden tenons.⁸⁹ In the Domestic Quarter at Knossos, wood was set onto bases at wall-ends, reinforcing the corners and aiding the distribution of weight from the upper walls down to ground-level (a similar function to that of

wooden timbers used as a framework within walls). The spaces between the timbers were filled with mud and rubble, rendered with plaster and sometimes painted red.⁹⁰ Similar constructions existed at Akrotiri. In the north-east corner of the West House 'Every two corner-stones, there is a wooden framing' (now reconstructed).⁹¹ Well-preserved corner-stones of the Millhouse of A 1 show the 'now empty spaces where the wooden tie beams had once been'. In B 1, the north-west corner of the building has a corner-stone with mortise holes on the upper surface of the stone⁹³ which must, according to Shaw's premise, have been intended for wood. The corner-stones of the tower in the Departure Town may, then, reflect an unusual but by no means unique usage of wood which the Theraans themselves had adopted.

Other likely uses for wood within the structures of the paintings are: for the balustrade and steps of the verandah that crown building No. 34 (Pl. 120); and for the fence of the animal enclosure in the Pastoral scene (Pl. 16).

Evidence from Minoan sites suggests that cypress and/or fir were the most widely used woods.⁹⁴ On Thera, however, these are not likely to have been easily available for timber, and Marinatos reported that in the rebuilding of Akrotiri there was a shortage of timber in general, in some cases rough tree trunks being used for wooden frames.⁹⁵ Two types of wood only are specially identified: palm may have been used for part of the window construction in the West House,⁹⁶ but the most commonly used wood was olive.⁹⁷

Features

Doorways

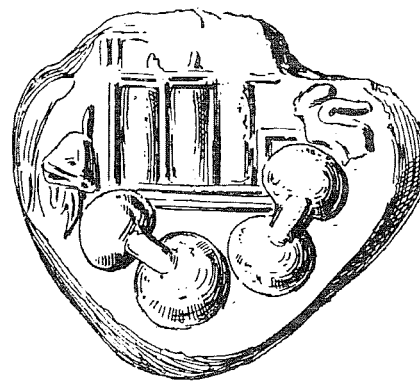
On the North Wall, the pastoral building is composed of three entrance-ways (Pls. 97 and 98, No. 1). On the left of the fragment, a continuation of the roof and part of a lintel suggest a fourth entrance. The fragmentary coastal building above the Shipwreck (Pls. 42 and 98, No. 2) also comprises an entrance. In the Departure Town, a number of buildings have doorways: Nos. 4, 7, 10 and 14, 19, 28, 29. The Arrival Town has no visible entrances with the notable exception of the massive gateway, for the buildings are protected by the large surrounding wall.

The pastoral building, No. 1, is composed of four (white) piers with horizontal divisions indicative of stones or bricks, above which rests a single (white) roof-beam covering the entire structure. The intervening spaces are entrances spanned by (yellow ochre) lintels. There are no thresholds to the entrances and no appearance of actual doors. The two right-hand entrances are painted blue-black, the one or two on the left side are painted in the neutral ground tone of the lime plaster, a

device providing a background on which the figures can be seen. A shepherd with his stick walks in front of the left door; in the fragmentary edge to the extreme left are the legs of an animal. Single entrance-ways, in which the piers may also be divided into horizontal lines and the top is composed of two beams – a lintel and a cornice or roof – are shown in glyptic scenes. The structure in these cases is identifiable as a rural shrine though it has taken its form from domestic buildings (Fig. 60).⁹⁸ The closest parallel to the Theraan structure is on the Zakros sealing in Fig. 55. The surrounding elements of a helmet and shields provide a juxtaposition comparable to that in the painting where the building is adjacent to a row of warriors. In Cretan architecture, pier-and-door partitions have the same form as the Theraan building, but are, of course, part of larger structures.⁹⁹

The coastal building, lower down in the same group of scenes, No. 2, includes, if not comprises, an entrance; the remainder of the building has not been preserved. The surrounds are formed of two piers made of ashlar masonry (with projections) and a double cornice of the same material. The entrance is depicted in a neutral yellow-red ochre which, while it could represent wood, is the same colour as that of the rock and ground surrounding it and therefore suggests simply 'an opening'. The Tiryns and Mochlos ship rings (Figs. 68 and 85) both depict a coastal building immediately adjacent to a ship and therefore the sea. On the former, at least, the building is composed of an entrance-way.

The doorways in the Departure Town and outlying buildings are more informative. The outlying buildings consist of single-roomed structures with a porch-entrance. On building No. 7, the porch is viewed frontally; on the buildings No. 4–5 and 9–10, the porch is seen to one side, although the panelled doorway with wooden surround is still seen from front-view (Nos. 4 and 10). A similar situation may pertain to one of the lookout-posts



55. Sealing from Zakros, MM IIIb–LM I.

on the hill of the Arrival Town; No. 32 may be the porch-entrance to structure No. 31. In the Departure Town itself, the disproportionate size of the doorways of Nos. 14, 19 (of building No. 17) and 28 suggest that they took the form of a projecting porch. No. 19, for example, ends abutting onto the window-ledge of No. 17, and unless we are to understand the two as entirely separate buildings, it must be that the artist is viewing the doorway from a closer viewpoint than the window. There is no reason why this peculiarity of perspective should not have been used by an artist capable of creating a town by overlapping forms.

This feature of a projecting porch-entrance or ante-room is not uncommon in Aegean architecture. An excellent example is provided by the Archanes house model. Pl. 111B shows the side of the entrance, which is lit by a large window divided by a column. Pl. 111A shows the entrance itself (on the right), and, from this angle, the ante-room is set back from the wall and the doorway partially obscured (compare buildings Nos. 4–5 and 9–10). The doorway has a threshold (a separate piece of clay modelled onto the base representing the floor) and a lintel beneath the cornice. Lembesi compares this ante-room not only with the houses in the Thera paintings, but with the ground-plan of the House of the Frescoes, the house at Sklavokampos and House A at Tyliisos, and adds that it also exists in the palaces as, for example, the South Propylaeum of the Palace at Knossos.¹⁰⁰ The feature is not common at Akrotiri, but can be seen where the entrance Δ 15 projects beyond Δ 16, while the entrance to Xesté 3 (Room 5) is set back in the façade (see plan, Fig. 1). The massive gateway off the square extends from the west façade of the Δ area and acts as an entrance to Δ 9.

Little further information regarding doors can be gained from the paintings. All but that of building No. 30 have a surround, but the artist has created ambiguities. The central area of differentiated colour reaches to the ground in some cases, and is poised in the middle in others (Nos. 7 and 14). The jambs and lintel of No. 29 are of stone (or brick); elsewhere, the yellow ochre surround suggests wood. Doors are infrequently represented in iconography and comparisons are few. One on a house of the Town Mosaic appears to be panelled with narrow strips of wood (Fig. 53E); one on a late Cypriot IIIa carved stone shows a double surround with a plain rectangular centre (Pl. 113).

Archaeological evidence for the use of wooden doors comes from pivot-holes and scorings on thresholds,¹⁰¹ and these were reported from Akrotiri.¹⁰² Wooden jambs within stone surrounds are shown by the appearance of mortises.¹⁰³ The jambs were sometimes left unplastered.¹⁰⁴ One of the houses at Akrotiri 'is framed by a

beaten mud threshold and rubble walls encased in plaster on either side, with the door hinged on the right as you entered . . . opening inward'.¹⁰⁵ The dimensions of the entrance doorway to the West House are: 1.98×1.15 m,¹⁰⁶ which is towards the larger end of the scale of the average Minoan doorway and indicates the relative importance of this entrance.¹⁰⁷

Windows

The windows in the paintings vary considerably, even within a single building. The basic types are: (1) a narrow vertical slit, usually set in pairs; (2) a plain square or rectangular opening, sometimes single, sometimes double or treble lights, with mullion divisions; (3) slatted windows.

The narrow slit window, known in architectural terms as a loop window, loophole or arrow loop, is surprisingly common in the paintings though rare elsewhere at this time. Two pairs of loop windows at different levels supply limited light and air to the tall lower storey of the tower, No. 11; two pairs are set in line with one another on No. 23; single pairs can be seen on Nos. 13, 15, 21, and in the Arrival Town on No. 37 and possibly on the poorly preserved No. 35. On all but the last, these windows occur on blue surfaces. They seem to be gaps in plastered rubble masonry and are unlikely to have had wooden surrounds. They occur on both lower and upper storeys. A pair of narrow windows on a rendered surface can be seen on one of the Town Mosaic house plaques (Fig. 53F); and loop windows, one on either side and three above a more conventional slatted window, can be seen on the ivory plaque from the Royal Road at Knossos (Pl. 112).¹⁰⁸ On the basis of this ivory, Graham suggests 'Storerooms on the ground floor may have been ventilated and dimly illuminated by narrow slit-windows' and offers restoration drawings of Phaistos and Mallia with this in mind.¹⁰⁹ A loop hole was reported in the basement of Δ 9 at Akrotiri; and a 'perpendicular slit' was found in an interior wall separating two corridors or staircases in area Γ .¹¹⁰

Loop windows are common on the towers of castles and churches in European architecture, particularly of the medieval period. They are splayed on the interior to allow light to spread through the otherwise narrow opening. Their purpose in castles was frequently one of defence, hence the term 'arrow loop'; but the most common usage is as a means of illuminating stairways and landings where larger windows would be unnecessary and impractical.

Unless the rooms with loop windows depicted in the painting were lit by a further light source on another wall, they must have been areas requiring little light and ventilation. In the case of buildings Nos. 15 and 37, the

loop windows are placed immediately below rooftops on which people sit surveying the scene. They may have lit a small staircase leading to this open-air viewing place. On the tower, No. 11, the loop windows are placed at two different levels, obliquely to one another. The most likely explanation is that, as in the towers of later periods, they lit the landings of a staircase.

The plain and slatted windows vary in their dimensions. Some are rectangular, others square. The yellow ochre surrounds indicate wooden jambs, sills and lintels. Marinatos reported from Akrotiri that 'The better-made windows are supplied with frames of worked stone projecting 3–4 cm from the walls. Within the stone frame existed another one of wood . . .'¹¹¹ On the construction of one window he comments that the wooden lintel and sill-beams (which were up to 15–16 cm thick) had twice the dimensions of the actual window opening 'so that they were well set on the walls'.¹¹² This feature also occurs in Cretan architecture.¹¹³ Although it is not evident in the Theran paintings, it can be seen in the Kean fragment in Fig. 54b.

The notable differences in shape and size of the windows in the two towns relate to the characteristics of windows at Akrotiri. The southern façade of the West House has a total of seven windows, four in the basement, three above (Pl. 109 includes all but the western two). From east to west their width–height dimensions are: (basement) 0.64×1.15 m, 0.52×0.86 m, 1.27×0.36 m, 0.90×0.55 m; (upper storey, height only as preserved) 1.34×0.99 m, 3.45×1.19 m, 0.62×1.20 m.¹¹⁴ Three windows in the Δ area are square: 0.45 m, 0.75 m, and 0.80 m.¹¹⁵ One in A 1 is oblong: 2.20 wide $\times$ 1.15 high.¹¹⁶ The oblong windows would easily have been divided into two, three, or four lights by wooden beams. Evidence for the tripartite division of the A 1 window was reported by Marinatos; and, similarly, vertical divisions existed in a window of A 2,¹¹⁷ and in one belonging to the House of the Anchor opposite the gateway.¹¹⁸ Divisions into lights must be assumed for the enormously wide window (3.45 m) along the central upper façade (Room 3) of the West House. Doumas reports finding evidence for an off-centre median support in this window. A square cavity can be seen on the sill and below it were two oblong stones.¹¹⁹ The windows along the West Wall of Room 5 measure a total of 3 m and are divided into four lights by three wooden beams; the East Wall, with the same number of lights, is only slightly shorter (plan, Fig. 2).¹²⁰ The entire façade wall of Room 2 in Xesté 3 is composed of two lights divided centrally by a stone pillar.¹²¹

The existence of central window-partitions in Cretan architecture was postulated by Evans on the basis of mortises on window-frames,¹²² and although Shaw does not accept the particular instance cited by Evans, he dis-

cusses other evidence for window-partitions. Along the longest known sill, on the southern side of the Central Court at Mallia, transverse cuttings at regular intervals show where partitions would have been; on a sill of the Queen's Megaron at Knossos carbonized wood between the gypsum sill-slabs indicates vertical partitions; and in House C at Tyliisos, a sill, *c.* 2.72 m long, has three symmetrical pairs of mortises on each side with one pair approximating to the centre of the sill's length.¹²³

Such enormously wide windows, divided into lights by beams, and known from buildings on both Crete and Thera, are depicted in the Theran painting on No. 42, in the reconstruction of No. 40, and perhaps in No. 17. In the first two examples, men sit watching the scene from the windows. In the paintings from Knossos and Mycenae (Fig. 57 and n. 7) the windows from which women watch their scenes are also divided into lights by vertical beams. The window of the clay shrine model from the Loom Weight Basement (pl. 114) is divided into four narrow lights by beams; some of the windows on the Town Mosaic plaques are divided by a central beam (Fig. 53C); a pillar divides the window of the ante-room in the Archanes house model (Pl. 111B); the windows of the tower-like buildings of the Siege Rhyton are divided into three (Pl. 191); and the Kean fresco fragment in Fig. 54a shows a wooden surround with a central beam dividing the window into two lights. These windows were probably thought of as lighting a single room, as did the oblong divided windows at Akrotiri. On one of the sides of the Archanes house model, however, two adjacent windows, each with two lights, correspond internally to separate rooms (Pl. 111A).¹²⁴ The wall dividing the rooms is summarily indicated on the exterior by incised lines.

Aegean architects presumably found more than one solution to the problem of controlling the amount of light and air. Besides wooden slats, matting, cloth hangings or panes could have been used. The windows of building No. 17 are painted green; those of the wall No. 44, and the lower storey of No. 42, yellow ochre; and that of No. 9, black. (Of the remaining plain, rather than slatted windows, the white coloration is the artist's device for providing a background for people.) Amongst the Town Mosaic plaques, some of the houses are shown with red windows;¹²⁵ and on the basis of this it has been suggested that dyed parchment was used for panes, although Lawrence considers the representation of solid shutters more likely.¹²⁶

Shutters may have been used at Akrotiri. Along the North Wall of Room 5 in the West House, pieces of thick wooden boards left impressions measuring a rectangular 45×28 cm and a trapezoidal of 46 and 50 cm $\times$ 28, the thickness of the boards being *c.* 3 cm.¹²⁷ The most likely

interpretation is that they were parts of shutters belonging to the windows.

A more prevalent form of controlling light and air at Akrotiri was by the use of wooden mullions and transoms which formed a lattice with slits through which the light would have been filtered. The evidence for vertical beams has been cited above. Mortise holes in the jambs of windows provide evidence for horizontal beams. Marinatos comments in general that 'the window had usually three horizontal wooden rods as balustrade. The windows, therefore, had no shutters; they were mere openings with slits between the woods of the balustrade . . .'¹²⁸ The prints of such horizontal rods show clearly in a window from Δ 5/Xesté 1;¹²⁹ and mortises were found in a window of A 2,¹³⁰ and in the stone pillars of the massive windows of Xesté 3.¹³¹

It is clearly a construction such as this which is shown in the painting, in the lattice windows of the upper storey of the tower, No. 11, and the gateway, No. 46. A similar framework may have existed on No. 41, but this is poorly preserved, and it can be seen on No. 42 (confusingly placed beneath a large open window divided by a central mullion).

There are many iconographic parallels for the use of partition windows. A single mullion and transom divide the windows on the Town Mosaic plaques A, D, in Fig. 53, and on G, two transoms divide each light into three squares. On the ivory plaque from the Royal Road (Pl. 112) there is no mullion but two transoms divide the window. Similarly, on the Cypriot carved stone house there are three transoms to each window-frame (Pl. 113). In the Knossos 'women at windows' fresco fragment, the beams of the frame continue down and across, indicating further divisions (Fig. 57), as does the fragment with a warrior at a window from Thebes (Pl. 156). The house fragment from the miniature fresco of Tyllissos shows a

window with numerous slats (above, n. 3). On the Archanes house model each wall has a different type of window. The two in Pl. 111C are divided by a single mullion providing two lights each; the window beneath the balcony in Pl. 111D has both mullion and transom, providing four square lights; and the window belonging to the main internal room¹³² shown in Pl. 111B is a large rectangle divided into six lights by a central mullion and two transoms. The last of these provides a direct parallel to the upper-storey windows of the tower, No. 11, and the gateway, No. 46. Presumably these too belonged to important large rooms. The wide variety of window types represented on the single building of the Archanes house model is matched by the variety in the Thera paintings.

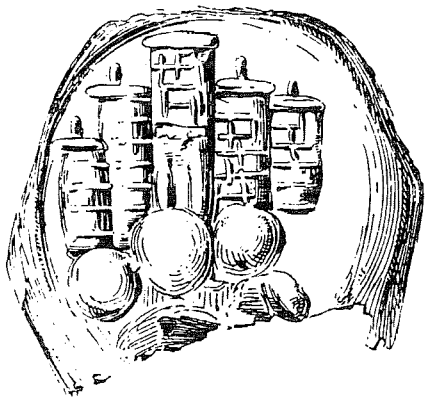
Roofs

The roofs of the buildings are flat, consisting of a single or double (Nos. 8, 11, 15) beam which frequently projects beyond the walls (notably on Nos. 11, 41, 46). This overhang would serve to protect the walls from rain-water.

Flat roofs have long been assumed for Aegean Bronze Age houses, though some scholars have argued for the existence of sloping roofs on the Helladic megaron.¹³³ A model of a house from Melos has a vaulted roof;¹³⁴ but other iconographic sources indicate that roofs were usually flat (Figs. 53, 56; Pls. 112, 191). (The skylights of the Town Mosaic are a modification not encountered elsewhere.) Double beams – cornice and roof – are indicated amongst the Siege Rhyton buildings, and on shrines (Pls. 191, 117; Fig. 60). The overhang is also a repeated feature (Figs. 56, 60; Pl. 117).

A peculiarity of the roof of building No. 35 in the Thera painting is the two small domes. Similar miniature domes crown the towers on the Zakros sealing in Fig. 56, and, more prominently, on several of the house fragments from the Kea miniature painting (Figs. 54a and c). Abramovitz cites Near Eastern comparisons for the Kean 'crenellations', drawing attention, in particular, to Hittite examples in the form of carved stone plaques or plastered mud constructions.¹³⁵ Whitewashed stucco domes adorn some of the flat roofs of the houses in the Dodecanese today. If the domes in the Kean and Thera paintings had a function, it is not ascertainable, as we cannot see whether the structure is entirely enclosed or has an opening at the top to allow light in or smoke out.

Archaeological evidence, in the form of accidentally baked clay with impressions of reeds, indicates that roofs were made of beaten earth laid over reeds which were placed on to the ceiling beams.¹³⁶ The technique is still used on Greek cottages today. An analysis of a thick lump of clay belonging to the roof of the West House at Thera has been made by Shaw.¹³⁷ On to the main ceiling beams,



56. Sealing from Zakros, MM IIIb-LM I.

round poles were placed at right-angles, and onto this a thick layer of leaves¹³⁸ was placed at right-angles to the poles. Layers of damp earth were then packed down flat onto the structure and smoothed. The first, thickest, layer of greyish earth was mixed with small pebbles and porous matter such as sherds and charcoal; the second layer was more compact for waterproofing and consisted of a red earth mixed with pebbles; the third layer was of whitish earth which, Shaw comments, is still used as roofing material in Cretan and Cycladic villages. Above, Shaw distinguishes further layers of red and white earth indicative of renewed waterproofing.

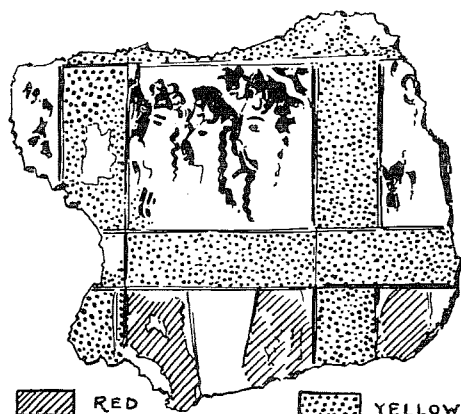
One of the great advantages of flat roofs in warm climates is that they can be used by the inhabitants of the houses. On flat roofs in Greece today, grapes and figs can often be seen drying in the sun. In a community of closely-built houses the roof provides extra space and is an ideal place for people to sit viewing the surrounding scene over the tops of neighbouring houses. Obviously the flat roof must, then, have access from the rooms below.¹³⁹ This is implicit in the houses in the Thera painting; for while some of the inhabitants of the two towns have gathered at windows and on verandahs to survey the scene, a great many others have climbed to the vantage point of their roofs.

People and architecture

In the Departure and Arrival Towns, a new dimension is added to the well-known theme of 'women at windows'. Both men and women enjoy the view from the windows, verandahs and rooftops of their houses. Such intense concentration on incoming ships from local inhabitants peering from windows or sitting on balconies can still, at

times, be observed in the small ports of the Greek islands today.

In the Departure Town, men and women have gathered on the rooftops (Pl. 118). One man or boy is on building No. 12; four men are on the adjacent No. 15; one woman is preserved on the next roof and others may have accompanied her (Nos. 20–1); a fragment of a man's head is preserved above building No. 25. The Arrival Town bustles with more life. The best view is afforded a woman seated on the verandah of No. 34, who raises her arm in deference to the horns of consecration in front; a second woman seated on the roof of No. 36 behind also raises an arm; between them stands a boy (Pl. 120). At a higher level in the town, a woman sits on the roof of No. 37; only a fragment is preserved but (as the reconstruction suggests) she was probably accompanied by another figure. On the roof of No. 43, one woman and three men are seated (the woman is poorly preserved and not reconstructed but the striped garment indicates her presence). Above the gateway, at least four other women are seated (Pl. 108). The women have the best views; although a few of the men have joined them on the rooftops (Nos. 34 and 43) the majority are inside looking out from their windows. One man is fragmentarily preserved in No. 40, others are reconstructed; five men are visible in the two lights of the window of No. 42; and in the large white space upper-right on the gateway (an unlikely place for a window) fragments show that at least two men were present (a third is reconstructed).



57. Miniature fresco fragment of women at windows, from the N.-W. Fresco Heap, Knossos.



58. Miniature fresco fragment of a woman behind a balustrade, from Knossos.

Although no iconographic comparison for such varied spectators has survived, a number of wall paintings reflect the theme of viewing from a window. In a fragment of the miniature frescoes from Knossos a woman with raised arms stands behind a balustrade on a balcony (Fig. 58). In another fragment, from the N.-W. Fresco Heap, three women view a scene to their left from a window-frame (Fig. 57). In the miniature painting from Kea, women watch the surrounding scene from the windows of their houses. One fragment shows a woman facing to the left, framed by a yellow ochre surround, her right arm raised; another fragment shows (in larger scale) a woman in a window facing to the right with her left arm raised.¹⁴⁰ From Mycenae, the Siege Scene of the Megaron frieze includes a woman in a window facing to the right. (In the reconstruction a second woman appears in a window below.)¹⁴¹ In a fragment from the Ramp House women appear in windows with festoons, facing to the left; one has her arm raised.¹⁴² In the miniature fresco fragment from Thebes in Pl. 156, a warrior (with light skin – hence, presumably, female) appears at a window, facing to the left.

The idea is continued in other media, though examples are few. In the Mycenae Siege Rhyton, men and women gesticulate frantically from the safety of the city wall (Pl. 191). In another fragment of the rhyton men appear on a balcony (Pl. 119). A woman may have appeared at the balcony of the Archanes house model; a semi-cylindrical piece of clay found on the floor of the balcony was interpreted thus by Lembesi.¹⁴³ Women, surrounded by frames and with arms raised, appear on Mycenaean larnakes from Tanagra. The frames frequently comprise the architectural features of chequers and on one are associated with beam-ends.¹⁴⁴ The theme of 'women at windows' is also common as a motif on Phoenician ivories.¹⁴⁵ The image apparently had a different meaning in these later examples from the Near East, where the woman in her window is isolated. In the Aegean the women and men who appear at windows, on balconies and on rooftops, are onlookers of exciting or important scenes surrounding them.

Horns of consecration

The Arrival Town is distinguished by the presence of horns of consecration on imposing walls. Projecting beyond the roof of No. 34, the building closest to the harbour, are two pairs of horns (Pl. 120). They are placed close together so that a horn from each rises in a united point at the centre; a red blob adorns this point. A row of four pairs of horns crowns the massive wall, No. 46, adjacent to the town's gateway (Pl. 121). The points of the horns are decorated with red.

Horns of consecration, marking the sanctity of the place on which they stand, were in use in Crete during the New Palace period. They were applicable to Minoan cult, but were also absorbed into Mycenaean imagery at an early date. Their appearance at Thera indicates Minoan influence, for horns do not appear in earlier Cycladic tradition nor, with the exception of an ivory signet ring from Phylakopi,¹⁴⁶ on the other islands at this time. They need not, however, be taken as evidence that Thera was a Minoan colony, or that the Arrival Town is set in Crete. The idea of marking a consecrated place in this way spread to Thera and the mainland at the very time it was most popular on Crete. The phenomenon is specifically Aegean and has no real counterparts in the iconography of the Near East.

The horns are not solely iconographic in intent, for they were incorporated into the architecture of important buildings. Massive limestone horns of consecration were situated near the South Entrance at Knossos, and others were found in the Central Court, the Fetish Shrine, the East Hall, the S.-E. House, and the Temple Tomb. Outside Knossos, examples are known from LM I Nirou Chani, Tylissos, Gournia and Palaikastro.¹⁴⁷ On the mainland their occurrence is rare, though horns were found in the palaces at Gla and Pylos.¹⁴⁸ A striking aspect of the buildings at Akrotiri is the inclusion of stone horns in the area of imposing walls between Δ block and Xesté 2. Parts of two were found: one, from Δ 11, had only one point preserved to a height of 55 cm;¹⁴⁹ the other, from Well 66 near the north-east end of Xesté 2, is a large fragment of a porous double horn on which Marinatos comments 'The horn must have consisted of five pieces in all, reaching to a total height of approximately one metre.'¹⁵⁰ The Arrival Town, with its rows of horns of consecration, reflects Akrotiri itself.

Physical remains indicate that horns were sometimes placed on the walls of grand houses and palaces. The Theran painting and the fragment from Pylos in Pl. 116 are the only iconographic indications of such usage. It is notable that in both cases the horns appear to the right of a decorated area applied (in the Theran painting definitely, in the Pylos fragment probably) to a grand entrance-way. At Knossos, the South Entrance may also have been crowned with horns. Shrines at Ayia Irini on Kea, Phylakopi and Mycenae are situated close to the city walls. On Kea, the main citadel gateway opens on to a courtyard adjacent to the temple, so that the area of entry may have been considered sacred.¹⁵¹ A reflection of such an idea can be seen in the painting.

Iconography more often shows horns of consecration applied to altars and shrines than to houses or city walls. Once again, this reflects actual cult usage. Two pairs of stucco horns were found at Knossos in the Shrine of the

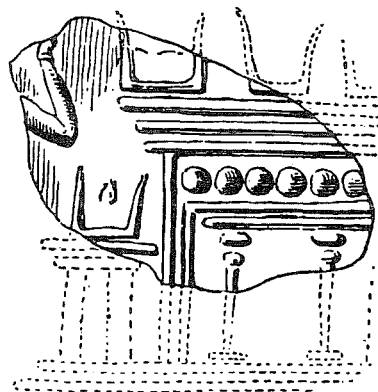
Double Axes; model shrines and altars with horns of consecration were found in the Loom Weight Basement and altars with horns at Ayia Triada.¹⁵² From Shaft Graves III and IV at Mycenae, gold ornaments in the form of tripartite shrines are crowned with doves and horns, while each niche of the shrine is filled with a column resting on a pair of horns (n. 62). The relief serpentine fragment from Knossos in Pl. 18 shows an enclosure in which men enact a performance in the vicinity of a free-standing wall surmounted by a pair of horns; the wall with horns marks the sanctity of the area. This application is clearer on the Zakros Sanctuary Rhyton (Pl. 117). Here, the sanctuary approach is composed of a number of free-standing walls crowned with horns (two votive boughs are placed on one). After walking past these sanctuary walls up to the hill-top shrine, the initiate would encounter the tripartite shrine whose two outer parts (like the gold shrines from Shaft Grave IV) are surmounted by birds and horns. Similar application of horns to a hill-top shrine can be seen on a fragment of a relief stone vase from Knossos which shows a man presenting offerings outside the sanctuary.¹⁵³ From A 1 at Akrotiri, the fragment of wall painting in Pl. 25 shows a monkey worshipping at a hill-top sanctuary; he stands with arm raised in front of a papyrus column which in turn stands in front of a platform crowned with horns. These last three examples all show hill-top sanctuaries. The same is true of the ring-impression from the Central Shrine at Knossos in Fig. 28. Behind the worshipped female figure on the mountain is a two-tiered altar or shrine, each tier crowned with two pairs of horns. These scenes are all set on hill tops, and the use of horns of consecration at high rural sanctuaries is thus implied. A small pair of plaster horns was found at the peak sanctuary of Petsofa.¹⁵⁴ It is a double pair, consisting of a smaller one within a larger, and is said to be

unique, though it compares well with the double pair of horns crowning the central area of the gold tripartite shrines from Shaft Grave IV.

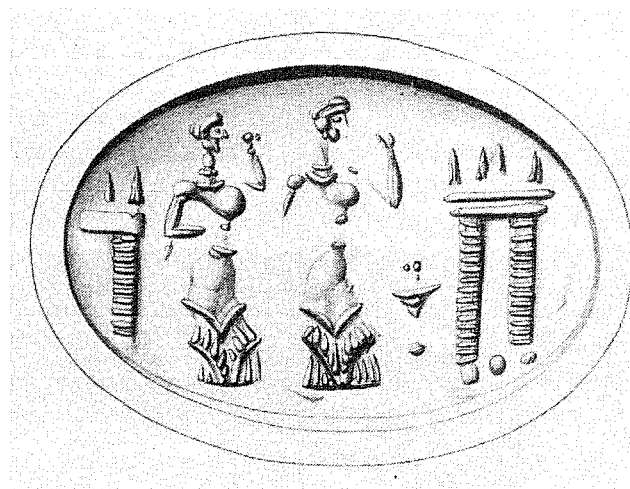
In most of the examples cited above, the shrine with its horns is shown without its votaries. The monkey fragment from A 1 is an exception, as is the Central Shrine ring-impression, on which a male votary is present. In other cases the horns of consecration receive the reverence of female worshippers. The shrine surmounted by horns and a bough on the Ayia Triada sarcophagus is approached by a woman (n. 60 above). The horns and beam-ends in the Citadel House Shrine at Mycenae are watched by a woman holding vegetation painted on the adjacent wall (n. 69). A recurrent glyptic theme is of one or two women each raising an arm in reverence before an altar or shrine with horns (Figs. 59, 60).¹⁵⁵

This image of a woman before horns of consecration is shown in the Theran painting (Pl. 120). Like the ring in Fig. 60, two women are placed in association with two pairs of horns. The woman nearest the horns has her arm raised with thumb and fingers separated in a gesture which is echoed by that of the women on the ring. The Theran painter has chosen a typical image (or what was to become a typical image) and placed it in an individual context. The image, however, is set not at a rural sanctuary but within a town. The horns are mounted on a small projecting structure which appears to be of light-weight construction, and may have been removed when not in use.

The presence of the horns on the wall by the gateway indicates the sanctity of the entrance area. The presence of the horns on building No. 34 may indicate that the



59. Sealing from the Little Palace, Knossos.



60. Gold ring from Mega Monastiri near Volos (LH IIIa-b context).

structure was a shrine,¹⁵⁶ but they are more likely to be serving a temporary function, acting as a focus for the two women. The raised arm is a precise gesture repeated in other instances with the same associations adopted by women in the vicinity of horns of consecration. The woman seated on the roof of building No. 34 has the best view in the town of the approaching scene and while watching adopts a votive gesture before a cult object signifying a sanctified area. Her gesture and the presence of the horns in this position – the nearest point to the sea – are surely pertinent to the event depicted.

The horns are, uniquely, adorned with red. The red blobs are undefined but one possible interpretation is that they represent some form of vegetation. They rest on top of the horns, rather than trickling down them like the red substance in the adyton paintings of Xesté 3, interpreted as indicative of a blood libation.¹⁵⁷ Whatever the red signifies it is evidence that the horns are 'in use' (compare the common usage of horns in iconography as a place for cult objects such as boughs, libation jugs and double-axes). The adornment of the horns intimates the religious importance of the event depicted.

Interpretation and functions of buildings

On the assumption that the representations of buildings in the paintings are based on a knowledge of actual structures known to the people of Akrotiri, the following is a brief discussion of the more notable or unusual buildings and their likely functions.

Pastoral building, No. 1. In its rural setting, this may have been a building for sheep and goats and the production of their dairy produce. An alternative interpretation (suggested by the iconographic parallels) is that it functioned as a rural shrine; in this case it would be appropriate to the ritual scene of The Meeting on the Hill.

Coastal building, No. 2. The building is fragmentary and the function is not ascertainable. However, the building is picked out for attention by the black triangles on the exterior face. Each triangle corresponds to an ashlar block. The functional possibility is that these were projecting stones for lifting the blocks into position but it is more likely that the triangles were simply for effect (see also below, p. 91).

Tower, No. 11. The structure, though its function is uncertain, is not unique. In iconography, there are tower-like buildings in the Town Mosaic, Zakros sealings and Mycenae Siege Rhyton (Figs. 53, 56; Pl. 191). Towers have been identified at the archaeological sites of Ayia Irini on Kea, and Pyrgos on Crete.¹⁵⁸

Sea-frontage buildings, No. 14 (and perhaps 24, 28) in the Departure Town. No. 14 does not suggest a domestic

living area since it has doors but no windows. It may have been for the storage of commodities or animals, or a shop, or a workshop. Most probably, because it is on the sea-front; it was for the construction and storage of small fishing boats. Similar sea-frontage boat-houses can be seen on Therasia and other Cycladic islands today.

Sea-frontage building, Nos. 16–19. This may be a three-storey building: a porch with doorway (19) set in front of the main structure (17) with, perhaps, an attic above (16, though this could be another building behind). A wall (18) joins the porch to the side of the building thereby enclosing a small courtyard or garden at the front. Probably a large private house, it has many features in common with buildings at Akrotiri: the large windows in a row (cf. Room 5 of the West House); the doorway and, judging by the loop windows above, stairway on the right side of the façade (cf. the façade of the West House and the north façade of Xesté 1); and a courtyard (cf. the 'courtyard' to the north of Xesté 1 (Δ 5–4)).

Rock-cut building, No. 33 in the Arrival Harbour. A regular, repetitive structure divided by horizontal blue struts, the intervening pink surface punctuated by rows of triangular openings. Almost certainly we should interpret the structure as rock-cut, built into the vertical face of a cliff and supported from possible collapse (caused by the weakening effect of the openings) by wooden struts. Neither archaeological nor iconographic evidence of the period provides clues as to the purpose of this unique structure. Marinatos' suggestion of a dovecot¹⁵⁹ is perhaps unlikely considering the massive scale. Conversely the openings appear too small and regular for tombs. The structure may have been for storage (for example, of grain, salt, etc.). The wooden struts could have been used as a form of ladder for reaching the storage units.¹⁶⁰ The possibility exists, however, that these were rock-cut caves built by the community to serve a number of different purposes.¹⁶¹

Urban shrine, No. 34, on the edge of the Arrival Town. On top of the building is a white structure in two pieces, one of which projects beyond the building and supports two pairs of horns of consecration. This may be a portable wooden structure, or made of stucco. It acts as a balustrade for the woman seated on the roof. The horns indicate that the building is sanctified, either a shrine or a place which can be used as such when occasion calls.

Steps (?), No. 39. As reconstructed, this is a single wide structure with horizontal lines. It may be that it represents a massive stairway (cf. the West Entrance to the Palace of Phaistos). But the impression may be illusory. The cut-away area is probably a device to provide space for the standing boy rather than an indication of steps, and there is no reason to suppose that the area was not

centrally divided into two buildings containing windows, like 37.

Gateway, No. 46. This massive gateway, with fortification walls on either side, must be the entrance to the town. Its grandeur signals the importance of the urban settlement and its occupants or rulers. It is a double structure comprising a gateway within an edifice. There is a storey above with windows and there are women on the roof. The occupants of the West House, looking from the southern windows of their building, would have encountered a scene comparable, though on a smaller scale: the gateway (or pylon) of the square. This too had an upper storey above the gateway; it was decorated with paintings of spirals and rosettes.¹⁶²

The structure is supported by piers (yellow ochre with horizontal lines indicating blocks) resting on a base (blue) which must be stone. The left pier ends further down the picture plane than the right, suggesting that the gate is staggered on uneven, rising ground. On the right, the pier of the gate is matched by another, supporting the entire edifice. The intervening area is white, separated into two by horizontal beam(s) (traces of yellow ochre) at the level of the storey. At least two men (three in the reconstruction) sit in the upper area; traces of colour are also visible in the lower area. White is here a conventional base for figures, rather than a structural void. On the left is a narrow vertical strip of blue, partially a continuation of the wall perhaps with the addition of a fill-device above. It may correspond to a stairway leading up the side of the gate to the storey above (cf. the gateway of the square at Akrotiri), distinguished by the painter from the adjoining wall by the omission of the stone courses. Above is structure No. 44. Unless it was a separate building behind the wall, this may have joined onto the storey of the gate, providing access to it. The lintel of the gateway (supported by a small (wooden) beam on the left whose equivalent on the right is omitted to allow space for the standing man) is decorated, either with paint or relief work. The space behind this area may have corresponded to a landing with steps up to the storey (if the storey were not reached via No. 44). The storey is provided with windows.

Wall, Nos. 45 and 46. A massive wall with coursed blocks indicative of ashlar masonry. It encloses the town in the manner of fortifications. The two windows may be the artist's means of varying a dull monotonous expanse; but they could be functional, admitting light and air to an internal structure behind the wall. A third opening is suggested by red ochre on the edges of the preserved area. The windows are high enough to be used as safe look-outs, but are the wrong shape for arrow loops. Structures 40 and 42 should be interpreted as lying behind the wall. The reconstruction extends the quoins of the left edge of

No. 42 into the wall, but there is no evidence to support this. The wall on the right of the gateway, No. 46, is largely reconstructed; it may also have had openings. This section of wall has a wide coping frieze (white) followed by a narrower cornice. Resting on the top of the wall are the horns of consecration.

The closest iconographic comparison for the wall is the Mycenae Siege Rhyton (Pl. 191). The decorated gateway has its real counterparts from later Mycenae: the Lion Gate and the Treasury of Atreus. But the gateway with upper storey is paralleled at Akrotiri. So far, Akrotiri has proved to be unfortified, but the excavation has not yet reached the peripheries of the town. The contemporary island sites of Ayia Irini on Kea and Phylakopi on Melos were both fortified,¹⁶³ as were several sites on the mainland¹⁶⁴ (unlike those of Crete). In this instance, in particular, the painting reflects a Cycladic tradition of building.

Summary of the two towns

The problem of creating the impression of a town in a compact two-dimensional space has been solved in slightly different ways by the painter (or painters) of the Departure and Arrival Towns.

In the former, the buildings are largely representational and care is taken to show the type of materials used, the texture of the surfaces, and the construction of windows and doorways. Only whole buildings are shown, or part of the whole building as seen from a particular angle. There are no 'extracts' filling the spaces. Buildings frequently overlap, as they would when viewed *en masse*. No. 25 is largely obscured by 26 in front, yet it is comprehensible as a rectangular building standing behind another. The painter has exercised economy without losing the sense of each structure.

The approach to the Arrival Town is different. In a larger overall area the painter has included fewer structures. The reason lies not only in the comparatively large space occupied by the wall and gateway, but also in the approach to the individual buildings. The 'bird's-eye-view' perspective is steeper, and houses or upper storeys sit on top of the buildings in front rather than being partially obscured; in this way the essential shape of the structure (rectangle, square) is more or less retained. At the same time, not all the structures are entire buildings; some are 'extracts' (such as the windows, No. 40) and others are 'fill' designs (such as No. 44) conveniently occupying a space created by the surrounding buildings. Less attention is paid to depicting comprehensible materials (stone, brick, wood) and more is paid to livening the overall effect by varying the pattern and texture of the surfaces. Thus, while the lintel of the gateway is likely

to be representative of actual architectural decoration, Nos. 34, 36 and 42 are decorated with shapes and colours which can only be imaginative design.

Under such circumstances, it is hard to be certain whether the Arrival Town is in fact a town behind a fortification wall, or whether it represents a palace. Whichever, it has been distinguished from the Departure

Town by eclecticism. It gives the impression of being grander and larger (the windows, No. 40, occupy a larger space than buildings 20 and 21) as well as more varied. The Departure Town is well built and presumably prosperous, but fundamental. The Arrival Town is more concerned with impressive display than functional construction. The difference is one of status.

THE LOCATION OF THE SCENES

Against the Libya theory

The theory that the people in the miniature paintings are a mixture of Minoans and Libyans and that some of the scenes should be thought of as taking place along the Libyan coast was put forward by Marinatos¹ and upheld and elaborated upon by Denys Page and Sandro Stucchi.² Here, the method and details of this theory will be analysed before the reasons for preferring an Aegean location are expressed.

An outline of the general theory of Marinatos

Marinatos stresses a strong Libyan connection with the Therans, but is not always clear on the nationality of each figure, or on the geographic identity of each town. In general, a friendly 'Libyan expedition' is shown. In the North Wall scenes, 'Some "bad Libyans" perished, probably because they annoyed friendly towns.' Otherwise, 'The rest of the circumstances show an extremely cordial connection between Libyans and Aegeans. The [Ship Procession] expedition is manned with "colonial troops" of Libyans or perhaps rather Aegeo-Libyans, of which only the officers are Mycenaean.' The scenes show 'well organized settlements in Libya, in which a mixed population lived'. It is uncertain whether the Arrival Town is 'still in Libya' or in the Aegean, in which case it would be on Thera itself. It is 'a Minoan town strongly influenced by Libyan elements or rather in a Libyan, but strongly minoanized "tower-settlement" somewhere along the Libyan shores'. If the town is on Thera, it shows 'intimate connections between Thera and Libya', with 'Libyan worthies' on the island, even a probable 'mixing of Aegean with Libyan blood'. The other settlements are in Libya itself; the meeting of 'subtropical' landscape with Mediterranean 'must be the plateau of Kyrenaica'.

The scenes can be imagined as to the west of this, perhaps where Herodotus localized the Makai.

Support of the theory by Page

Page views the North Wall scenes as an invasion of a Libyan settlement, and the South Wall as a continuation of a narrative of a recent historical event in which 'the men from Akrotiri, having subdued the natives of the North wall, and having taken possession of the splendid river shown on the East wall, have established a settlement at the river-mouth close to a native village. Now the warships, their mission accomplished, set sail for home.' The river on the East Wall is thought of as the objective of the expedition; it is suggested that the people of Thera sailed to the area of Libya's only major river in order to obtain a richer corn-supply than was available at home. 'Natives of negroid, and therefore North African type' are seen on the so-called 'warships', indicating that 'Akrotiri had for some time been in close contact' with North Africa and leading to the confusing implication that Libyans served in the armed forces of an expedition against Libya.

Elaboration of the theory by Stucchi

Stucchi makes a clear distinction between the geography of the scenes on the North and South Walls. The basic identification of the North Wall Shipwreck and Warriors scene as Libyan is accepted. The drowning figures are not, however, 'bad Libyans' but rather allies of the soldiers who died in an attempt to defend themselves while fighting with sticks (like those held by the men in the settlement above). The soldiers are defending, rather than attacking, a Minoan settlement on the Libyan coast. The battle is to be thought of as between Minoans (the soldiers) and Libyans who must be imagined as advancing towards the soldiers in the missing area to the right.

The ships and crew are Minoan, and the enterprise is taking place in the Libyan sea. Therefore the high mountains must locate the scenes in Cyrenaica, the Gebel Akdar area where the plain separates the sea from the mountains. The Minoans were rulers of part of Libya and had transported their customs and religion to the area of their settlements. The griffin in *The Landscape* is symbolic of the rule of the Minoan king over a foreign land, i.e. Libya. The *Ship Procession* is interpreted as a triumphant return home by the victorious Therans after their battle in Libya.

Analysis: (a) Method and sources

In support of such a theory we should expect at least some archaeological evidence for these 'Minoan settlements' along the Libyan coast. Even if we accept the possible premise that only a fluke in fieldwork has failed to expose this evidence, the next approach that we should expect would be an analysis of the 'Libyan features' in the paintings on the basis of archaeology and of contemporary iconographic references to the Libyans available in Egyptian monuments. However, this is not the approach used in support of the theory. Instead, the sources are all of a literary nature and of considerably later date. The main source used by Marinatos is Herodotus, who certainly gives an excellent account of the Libyan tribes, though 1,000 years too late for our purposes.³ Secondly, the realm of myth is evoked in order to stress connections between the two areas: the Argonaut legend of Thera emerging from a clod of Libyan earth, and the Greek tradition of the Egyptian (= 'African') origins of Danaos, king of Argos.⁴ Thirdly, it seems to me that a memory of the historic colonization of Cyrene by the 7th-century Therans has induced an anachronistic sense of an earlier tradition.⁵

The possibility of connections between Libya and Minoan Crete has, of course, been expressed elsewhere.⁶ Part of the theory rests on the fact that Cyrenaica offers the shortest sea journey from Crete to North Africa and would therefore be an arguable route for traders making their way to Egypt. It is the only plausible part of the theory, though equally we must bear in mind the lack of landmarks in the intervening sea; Aegean sailors may well have preferred to have travelled via the Syrian coastline with the added benefits of its many trading posts.⁷

But the theory, both in general and for the paintings, has no substantial support from archaeology. Stucchi, in an earlier article, offered what he considered to be a few Late Minoan imports from Cyrene and Tocra.⁸ Boardman, in an analysis of this 'evidence', showed that none was from a context contemporary with the LM period, and all but one were actually of a later date (an Archaic sherd and an LM III (?) seal, both from a Roman

fill).⁹ The only certain LM find in Cyrenaica – a jasper lentoid found at Tocra – came from a stratified Archaic votive deposit and must certainly have been an heirloom.¹⁰

Until we have certain evidence of Aegean Bronze Age finds from a contemporary stratified context, we cannot even be certain of trade contact between the two areas, let alone talk of 'Minoan settlements' along the Libyan coast. Marinatos was, it seems, aware of the lack of archaeological evidence, but was sufficiently convinced by the 'Libyan' nature of the paintings to state 'It is our fresco which for the first time opens the way to conclude about much broader and older connections between Libya and the Aegean. Most important is that these connections, which appear already established by the middle of the sixteenth century B.C. seem to be friendly and to be based upon a mutual collaboration. Thus a new chapter opens in the history of the Aegean and especially for that of Libya.'¹¹ But do the paintings support this view?

(b) Geography and settlements of Libya

A few general comments on the physical environment and what little is known of the lifestyle of the inhabitants of eastern Libya during the 2nd millennium may be made before turning to the specific points of the theory.¹²

The tribes of Libya were largely nomadic; those that were settled, such as the Makai, generally formed seasonal communities, living along the coast only during the winter months and moving inland for summer. Of the few permanent settlements around the oases of the interior, the buildings were of mud and rock-salt.¹³ In contrast, the settlements in the paintings are fixed urban and rural centres with buildings of brick and masonry.

These settlements are all coastal, and the landscape with its rocky promontories and natural harbours is, as we have seen in Ch. 2, typically Aegean. Yet the coastline of eastern Libya is comparatively flat and straight and lacking in good natural harbours. The only area with a mountain range close to the sea is, as Stucchi points out, the area of Cyrenaica. But even this coastline lacks peninsulas, and the mountains are separated from the sea by a plain rather than descending into promontories. There are more water-courses in this part of Libya than elsewhere, but generally these are dependent on winter flooding; it was the summer droughts which turned the inhabitants inland. The area of the Makai, the Syrtes, is 'a monotonous succession of sand dunes'.¹⁴

(c) Details of the theory

Of the specific points taken by Marinatos, Page and Stucchi to indicate the Libyan identity of the people, some cannot be applied to the Libyans at all, while the

few that can may equally well be applied to other peoples of the time.

Hair. Hairlocks: considering the Fishermen's hairstyle, Marinatos comments '... it is ... probable that we are dealing with a shaven head sparing a few locks of hair. I have come to this conclusion after several other facts persuaded me that we have before us, in Thera, close connections with Libya ... this fashion has always been of Libyan origin and ... even today it survives in the Sahara and in North Africa generally.'¹⁵ The hairlock was indeed worn by Libyans and does survive among many North African peoples today. It was also an extremely widespread style of hairdressing in many other parts of the ancient world.¹⁶ None of the various styles of wearing a hairlock can be sufficiently closely paralleled with those of the Thera figures to suggest identification, least of all the Libyan version which is shown in Egyptian representations as a long single plait on the right side (only), the hair otherwise cropped into a fringe and hanging in a straight line at the nape of the neck.¹⁷

'Crested' hair of the drowning figures: citing Herodotus, Marinatos compares the 'crested' hair of these figures to the Makai who 'cut their hair short on both sides of the head leaving only the top hair to grow'.¹⁸ Stucchi correctly points out that locks or waves on top of the head are a common feature of Minoan representations of hair; and Page concedes this on the advice of Warren.¹⁹ There is no reason to assume distant ethnic associations from later literary sources when contemporary iconography provides us with parallels very much closer to home.

Earrings. The use of large earrings on the Thera figures is cited by Marinatos as a likely connection with Libyans. In fact, the Libyans did not wear large loop earrings, but rather studs or small loops, plain or with a bar or flat wedge attached to the bottom.²⁰ The closest parallels to the Thera earrings are from Shaft Grave III at Mycenae.²¹

Circumcision. The suggestion that the Fisherman and shipwrecked figures are circumcised is imaginative, and the implication that they may therefore be Libyans erroneous.²²

Physical appearance. The reference to the 'up-turned' or 'snub' nose of some of the men is a curiously vague ethnic distinction, and the suggestion that this is 'the special feature of a negroid Libyan stock' is self-defeating in a theory which otherwise seeks to identify the people with the north-eastern Libyans of Cyrenaica and the neighbouring Makai.²³

Armour. The identification of the object attached to the back of one of the drowning figures as an ostrich wing complete with projecting 'claws' is questionable, and the idea that it is a Libyan shield unlikely.²⁴ Only one figure

has the object. The real shields can be seen floating in the water next to the drowning figures: they are Aegean tower-shields, the same as those worn by the warriors on land. Wings, in any case, are an unlikely form of body protection, and in fact the reference to the Makai shields which Marinatos had in mind suggests, more understandably, that the Makai used ostrich skins (presumably stretched over a frame).²⁵

One of the warriors on land has 'little balls' on his helmet, a feature which Marinatos claims is not Aegean 'while in Africa such fashions survive until now (pl. 102a)'.²⁶ The comparative illustration shows projecting hair-pieces on a woman from the Sudan, not a helmet with 'little balls'. The helmets, with or without the addition of balls, are clearly recognizable as the Aegean boar's-tusk helmet with plume (see Ch. 7).

Clothing (with reference to a figure wearing a red-ochre skin garment). 'There are many people who dressed in skins, among them the Libyans. But of special interest is the fact that, according to the same Herodotus the Libyan women wore goatskins dyed *red with madder* ... This means that the seated figure on our fresco is female ...'²⁷

The argument is obviously at fault and needs no comment. Suffice it to say that the figure in question, unlike the white women in the paintings, has short hair and the face and body are painted in red ochre: the well-known convention in Aegean painting for the depiction of men. *Nakedness of the drowning figures.* Stucchi and Page cite this fact as evidence that the men are Libyans. Lucian, points out Stucchi, said that the Nasamones wore no clothes.²⁸ The tribes of the scholars have become mixed: Makai hair and ostrich wings and Nasamone nakedness. Once again, it seems preferable to take as our evidence archaeological or contemporary iconographic factors rather than late literary sources. Libyans are not shown naked by the Egyptian artists, they wear either a belt with codpiece or a long robe fastened over one shoulder and at the waist and open down the front.²⁹ As we shall see, drowning or sprawling naked figures were a conventional method of depicting defeat in battle or at sea, regardless of nationality. The convention applied equally to Aegean, Egyptian and some Near Eastern art (Ch. 11, pp. 152–3).

The 'African' in front of a palm (fragment from A 1: Pl. 32). Marinatos identified the figure as an African prior to the discovery of the miniature paintings.³⁰ Subsequently he cited the identification as further evidence towards the Libya theory.³¹ Stucchi agrees and adds that the blue strips on top of the man's hair should be understood as feathers.³² Egyptian representations show that one or two ostrich plumes were indeed worn by Libyan captains during battle, but this was not a unique feature for they were also worn by the Sudanese.³³ The identification is

tenuous; the adornment could as well be a palm-leaf as a plume (it being the same colour as the palm tree the man approaches). The large earring is, as we have seen, a typically Thera feature, and does not agree with the archaeological evidence from Libya.

Sheep. The sheep in the village above the Shipwreck scene were identified by Marinatos as the North African 'Berbery sheep' *Ammotragus Lervia*, on the grounds of the thick mane of wool. This was used as the first piece of evidence for a North African identification of the scenes.³⁴ Both a thick coat of wool and long hair around the neck are features of several breeds of sheep as we have seen above (Ch. 3), and Marinatos himself points out that the type shown in the painting is known from Minoan seals. Since the herdsmen are quite clearly leading domesticated sheep and goats, it is impossible that the species shown is Barbary. As noted in Ch. 3, the animal (who is a member of the family Ovidae but not closely related to sheep at all) was never domesticated (p. 58).

The Building with projections. The projections on the façade of the building beneath the warriors were identified by Marinatos as wooden beams 'necessary in buildings made wholly of clay' and surviving in clay buildings in North Africa today.³⁵ Difficult though interpretation of this feature may be (cf. p. 85), this identification with its geographic implication is unacceptable. Aegean artists depicted beam-ends not as angular projections but as rows of yellow discs. Furthermore, the building is not made of clay, but of ashlar masonry.

The Aegean location

Throughout this study it will be apparent that the various iconographic elements of the paintings fit within the framework of the Aegean world of the time, both in terms of life as we reconstruct it through archaeological excavation and in terms of pictorial formulae. There is nothing foreign about the paintings; where they differ from the surrounding Aegean world they do so in a way characteristic of the island cultures, basing their sensibility on the traditions of their more powerful neighbours, Crete and Mycenae, but adding the individuality which makes up their own specific identity. There is little doubt that the Therans were (directly or indirectly) in contact with the more alien cultures of Egypt and the Near East, for some elements of flora, fauna, clothing and ships' paraphernalia derive their initial inspiration from these lands. But these are small details, imported, assimilated and even transformed; they do not add up to an influx of foreigners on Thera, nor to a depiction of foreign lands in the scenes, but are merely the results of trade and contact that we would expect from a sea-faring people.

Characteristics of the people's clothing and armour which identify them as Aegean are set out in the relevant chapters below, and a consideration of the specific identity of the people – Thera, Minoan, Mycenaean – follows in Ch. 8. Here, it is the location of the scenes that is under discussion and the evidence for an Aegean setting lies, above all, in the details of flora, fauna, and architecture considered in the preceding chapters. To avoid undue repetition, I shall merely summarize the evidence, now viewing each scene in turn rather than each iconographic element.

The Meeting on the Hill. The nature of the scene reflects an important aspect of Minoan (hitherto specifically Cretan) religion: worship on a hill-top or peak sanctuary. Ch. 12 details the significance of the event for the local people of Thera. Multi-coloured rocks appearing here and in the adjacent scene recur in the peninsula of the Arrival Town, and again in the Spring Fresco; they reflect a traditional Minoan formula in art, and perhaps also in this case something of the brightly-coloured rocks of a volcanic island.

Pastoral Settlement and Shipwreck & Warriors. The high land near the sea is a characteristic of Aegean coasts and is further expressed in The Ship Procession frieze. The flora and fauna are common to ancient and modern Greece – fig tree and domesticated sheep and goats – while the bulls of the unpublished fragment are a typical element of Aegean art. The built well would be a necessary water-source on an island as lacking in natural water-courses as Thera. The pots by the well and on the women's heads are a common Aegean shape of the period: the two-handled amphora. The warriors wear boar's-tusk helmets and carry tower-shields, both characteristically Aegean features of the time; tower-shields also belong to the figures in the water. The shipwreck and warriors in the lower zone constitute a genre scene which is becoming increasingly familiar (Ch. 11, pp. 150–4). A genre more or less precludes specific location, but the characteristics of land and people are as Aegean as the genre itself.

The Landscape. The Landscape painting is initially the most startling in terms of geographic identification. It has an almost studied exoticism. The plants may all grow in Greece but few are likely to be indigenous and most are more characteristic of further south. The large cat gives a similar impression and the sense of mystery and the exotic is intensified by the presence of the winged griffin. Yet nothing is truly out of place, and only a superficial look at the painting would convince that the location could not be the Aegean. The scene is again a genre, and one which we know better than that of the Shipwreck and Warriors (Ch. 11, pp. 146–50). In a genre scene it is harder to distinguish between what might be a reflection

of reality and the iconographic repertoire of the artist. But a useful criterion can be the way in which a particular scene differs from its prototypes. The basic ingredients are here: cat, waterfowl, river, plants. The difference lies partly in the emphasis of the theme: the addition of griffin chasing doe, and the repetition of plants. But it further lies in the particular plants chosen. Although the basic theme is Egyptian and although the palm tree is a southern plant and often represented in Egyptian art, the palm tree (like the griffin) does not occur in other examples of this genre, either in Egypt or the Aegean. Furthermore, the palms show an understanding of cultivation and growth process, indicating that the painter was familiar with the plant itself and almost certainly had seen it near home, for the palms in the painting reflect an Aegean climate in which the fruit never ripens. Of the remaining plants, papyrus grows on Crete at least, *Chamaerops humilis* grows on Crete and Thera, sedges grow everywhere in Greece and so do reeds. The rocks are of the well-known Minoan type and the meandering river is typical in Greece. The most likely interpretation is that it represents a park or garden in which imported species help to create a sense of fantasy and excitement. It is indeed studied exoticism: most is possible but little is usual.

The Ship Procession. The unique character of The Ship Procession frieze provides us with a chance to find a sharper definition of place and occasion than is possible in a genre scene. It is important here to draw attention to a point which is raised in Chs. 9 and 10, which is that the ships in procession are travelling only a short distance; this is clear above all from the methods of propulsion and the elaborate decoration of the vessels. This means that the towns must be close, an observation which is confirmed by the basic affinity between the architecture and the inhabitants. Judging from the clothing, representatives from all three settlements appear to be among the passengers of the ships in procession (cf. p. 117). The differences in the communities are more a question of wealth and position in society than of cultural identity. The buildings of the North Wall (at least as preserved) constitute no more than a pastoral settlement; the Departure Town is a prospering, small but well-built, provincial town; and the Arrival Town is the city *par excellence*: rich, experienced, sophisticated.

It is precisely the type of coastline surrounding these settlements, with its bays and steep rocky promontories extending into the sea, that is so typical of the Aegean islands. Both towns excellently describe Minoan harbours, which were on promontories or small offshore

islands. The pine-strewn hill-top on a rocky peninsula can be found throughout Aegean lands. The deer chased by a lion is a Mycenaean genre image; fallow deer were known in Greece, and while the Therans may not have seen a lion stalking their own land, they may have been real enough for the more northern Mycenaeans. The dolphins following the ships are Aegean both in reality and art. The river surrounding the Departure Town forms a delta much as small rivers do in many parts of Greece. Streams at least are known on Thera and small seasonal rivers are dotted over the Aegean islands.

The architectural features of the towns are even clearer to identify. The massive ashlar masonry at the base of the Arrival Town, the tiered construction of the buildings with plastered rubble masonry below and mud brick above, the wooden struts, the alternately-toned quoins, the asymmetrical placing of doorways and windows, and the wooden lattice-work of the windows are all typical of the architecture of Akrotiri itself. The ashlar wall with its large gateway might be town fortifications – an island feature at the time – or it might suggest the gateway in the square immediately opposite the West House. The flat rooftops and the figures in windows and on balconies are familiar iconographic features from other miniature wall paintings. Above all, the Aegean identification is strengthened by the existence of the horns of consecration which appear at two points on the walls of the Arrival Town. Actual stone examples of this Minoan symbol were found at Akrotiri, placed on ashlar structures in the same way.

As demonstrated below in Ch. 9, the ships are Aegean in construction, and while certain features have their origin in Egypt, notably the cabin, these were assimilated into Aegean nautical technology. The ships' emblems are exclusively Aegean, some, with their close affinities to pottery motifs, identifying the ships in time as well as in space. The shipwrecked vessels are of the same basic construction as those on the South Wall.

The ships make their way over a short distance from the one smaller settlement to the other major harbour town. The towns and landscape are sufficiently differentiated for us to be sure that the points of departure and arrival are not one and the same, but the connections between the two make clear a relationship. I consider, with others, that the Arrival Town represents Akrotiri itself,³⁶ and I suggest that the ships are those of the Theran people (and not necessarily of the Minoan navy) and that the Departure Town represents another small coastal settlement either on Thera or on a nearby island with close cultural connections.³⁷

THE PEOPLE

6

CLOTHING AND HAIR

Some 370 figures fill the scenes of the miniatures, including those partially or entirely reconstructed. Of these, 120 make up the paddling crew of the large ships, being no more than shorthand brush-strokes indicating the appearance of 'many men'. Of the remaining figures, 182 have some part of their clothing or hair preserved. All but 10 of these are male. The colour conventions of ancient art – red ochre for male skin, white for female – make the identification of gender certain, even when only a small fragment of the figure has survived. Hair is always rendered black.

The varieties of male clothing are instructive, but the garments of the few women in the miniatures are relatively disappointing (in contrast to those of large-scale women in Theran paintings, such as *The Priestess* or the ladies from Xesté 3).¹ Similarly (again unlike large-scale figures), the women and men in the miniatures have no jewellery or facial decoration, perhaps owing partly to their roles in society and partly to the small scale in which the figures are painted.

Male clothing

Cloak

In contrast to the usual scanty attire of Minoan–Mycenaean men, the majority of the male figures in the miniatures wear a long enveloping garment, which generally (though not always) encloses the arms in the manner of a cloak. Three varieties may be distinguished: (1) a white robe with single or double bands around the hem and a band around the neck. Double vertical lines down the centre-front of the garment may represent piping or panelled decoration or, alternatively, open edges. The neck is tied by two long strands. (2) A similar but plainer garment, sometimes slightly shorter, in white, dark blue–grey or red ochre. The garment has no lines down the

front and there are no ties at the neck. (3) The same garment but with short lines on the surface of the fabric indicating the hair of an animal. The neck is tied by two strands.

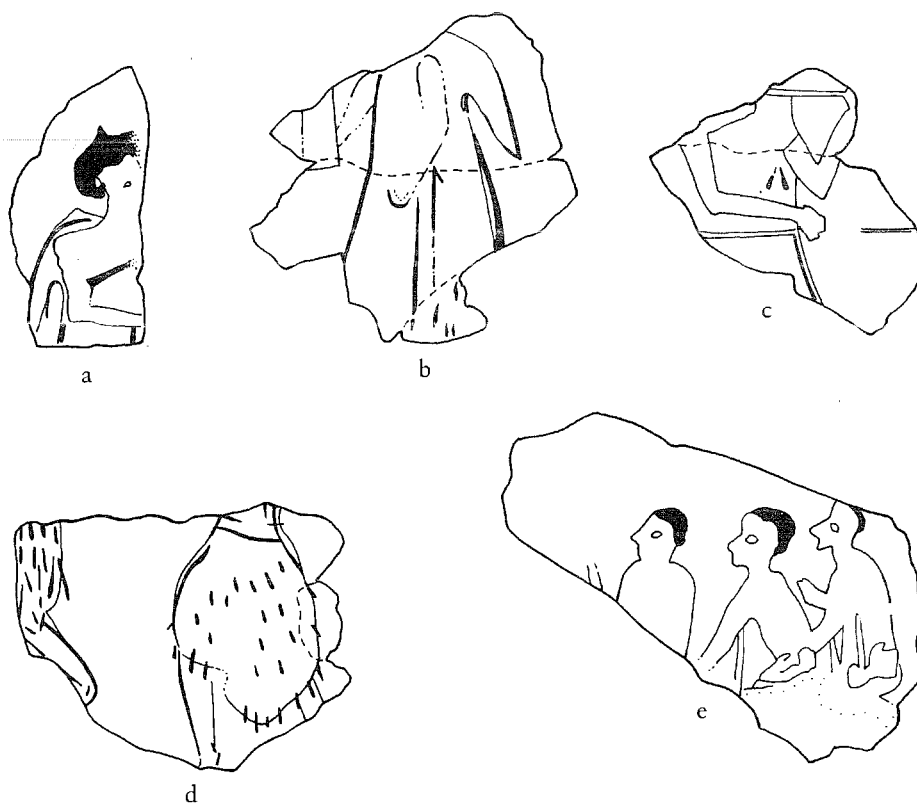
In Aegean iconography, the long loose robe (sometimes white) is worn in particular by processional figures (the Kea miniatures,² the Procession Frescoes from Knossos, Ayia Triada and Pylos,³ the Ayia Triada sarcophagus) and those involved in ceremonial occasions (the Tiryns Offering Ring, the Palanquin and Camp Stool Frescoes,⁴ the Throne Room figures from Pylos)⁵ as well as cult figures on sealstones (such as Fig. 29). In the West House paintings it is worn by *The Priestess* (who, though solitary, is in a processional pose) as well as by the processional figures in *The Meeting on the Hill*. In this scene, all the men approaching the summit from the right wear the long robe, as does the leading figure approaching from the left (Pl. 122). The two central confronting figures (who may have a longer version of the robe) are the dominant personalities of the ritual, presumably the high priests. The better preserved of the two, on the left, is distinguished from his short-haired companions by Minoan-style locks (Pl. 127). Two bands at the top of his cloak suggest that the garment was shaped to fit smoothly over the shoulder by means of the tailored strips.⁶ Two bands at the hem may indicate that the cloak was of double thickness, each layer ending at a different length. The Linear B tablets at Knossos refer to both 'double cloaks' and 'edged cloths' (white or dyed purple).⁷ A similar differentiation is made in Homeric Greek between double and single cloaks (see below). If 'edged', the bands may have been a method of lengthening an otherwise standard cloak, as a way of signifying rank, status or role within the ritual. The double-hemmed garments are worn only by those at the centre of *The Meeting*.

To the right of the central figures is a man whose head is turned back to look at those behind him (Pl. 123). He, too, is distinguished by his garment. The hem of his robe, though of knee-length, has two broad bands. Behind his head and shoulder an additional piece of fabric extends beyond the robe; it is poorly preserved but appears to be striped. It may have been related to the Minoan 'sacral knot'.⁸

On some garments this feature has a practical explanation. On *The Priestess* the yellow over-garment (presumably a single loom-width of cloth) has been wound around the body twice, brought up under the left shoulder, ending in a piece which is slung over her right shoulder where it is attached (perhaps by a pin),⁹ the remaining fabric trailing loosely down her back. The style, unusual in the Aegean, has a long history in the Near East. In Sumerian iconography, the gods are distinguished from their votaries by this long gown; later, the garment was worn by priests and the most important of the worshippers, sometimes also by the ruler or god himself.¹⁰ In the Aegean, too, it was the apparel of an élite, quite likely of the priestly class.

In contrast to the Near Eastern garment, the style as worn in the Aegean generally has the trailing fabric over the right-hand shoulder of the figure (spectator's left), as on the male figure with bird on the seal from Knossos in Pl. 124. When such garments are depicted with the left shoulder facing the spectator, the trailing end is not visible.¹¹ An exception occurs amongst the miniatures from Kea.¹² Figs. 61a, b, c show men in long white robes, one with a vertical stripe. The arms are not enclosed. In Fig. 61a the trailing material appears behind the man's right shoulder, but since there is no attachment there, clearly it has been slung over his left. In Fig. 61b the material trails behind the man, who faces towards the spectator's left. It is shown as though of one piece with the rest of the garment.

The trailing fabric seems to have attained a supra-functional significance for it appears on robes which are not based on the wrap-around garment. On the Pylos sealing in Fig. 30, the right-hand figure flanking the lion wears a wrap-around garment while the left-hand figure wears a cloak with hem-band comparable to those in *The Meeting on the Hill*: both garments have the trailing



61. Fragments from the miniature wall painting from Ayia Irini, Kea. 3:4.

material. On a seal impression from Zakros, two figures in hide skirts holding votive objects (a double-axe and a flounced skirt) bear on their right shoulder the same trailing material. It is devoid of practical purpose.¹³ The 'sacral knot' of La Parisienne is also attached to her right shoulder. The man with his head turned back in The Meeting on the Hill wears the same type of robe as his companions (not of the wrap-around variety) but it is distinguished by the trailing fabric attached to his right-hand shoulder. Did the artist turn this figure's head and shoulder to the right in order to signify that he is looking backwards, or in order to display this feature?

On the North Wall, two other men wear the white robe. Third in line on the right of The Meeting, at a lower level on the hill, is a figure with white robe tied at the neck, lines down the front and a single hem (Pl. 123, right). His left arm projects behind him, so the robe has optional slits. The Meeting is not entirely preserved, and there may have been others in white robes. To the right of the scene is a group of men standing above (i.e. beyond) the building. These constitute the end of the line of men in The Meeting on the Hill (see Ch. 12, p. 157 and Pl. 1 for a revised reconstruction of the scene). One man wears the white robe with single band around the hem (Pl. 130, left). None of the figures engaged in non-ritual activities (herdsmen, sailors, warriors) wears this garment.

On the South Wall none of the townsfolk wears the robe with ceremonial details. Two men in the Departure Town (one only partially preserved) wear a white robe (Pls. 103 (right), 107), as do five (grouped above the buildings) in the Arrival Town (Pl. 105). (In both towns, the white robes sometimes have sparse lines indicative of hair, suggesting that the material is wool rather than linen.) On none of these garments does the hem have a band. In contrast, several of the men in the procession of ships wear the ceremonial white robe: all those seated in front of the stern cabin and behind the helmsman, and those seated in front of the helmsman and next to the central awning, in at least the upper row of ships (e.g. Pl. 126). A large proportion of the passengers seated beneath the central awnings are also dressed in white robes, and, although the hems cannot be seen, many have a band around the collar and ties (e.g. Pl. 128 (left)). Once again, the robes with these features frequently have a double line (trim or an opening) down the front of the garment. Those that do not have the neck features, do not have these lines. The procession of ships has a ceremonial function (Ch. 10), and the figures seated by the stern and beneath the awnings are not active sailors but elite passengers. Such distinctions recur in the Enkomi ship krater (Fig. 81). The ship is divided into upper and lower sections; in the lower are the small-scale sailors and in the upper, the elite passengers. The latter, like the

passengers on the Thera ships in procession, wear long unseaworthy robes and, judging from the weapons they hold, are also of warrior status. Here, as in the miniatures, the wearing of a particular garment signifies status.

Some 74 men in the scenes on North and South Walls wear a simpler version of the cloak. The majority are plain, of white, red ochre or blue-black colour, probably of linen in the case of white, or dyed wool. As the garment encompasses the arms it was obviously worn as an over-garment which would have been removed for manual activity. Presumably, therefore, a smaller light-weight garment such as loin-cloth or kilt was worn underneath.

Two garments were worn by men in the Homeric epics: the χιτών under-garment, covered by a φᾶρος or χλαῖνα.¹⁴ The φᾶρος and χλαῖνα (mantle) are essentially cloak-like garments distinguished from one another by type of fabric and usage. The φᾶρος was a piece of fabric, almost certainly linen, used as a cloak, a sheet or shroud, and a sail. When used as a garment it is worn by the upper classes (men and women) and is never said to be for warmth. Ventris and Chadwick identify the word *pa-we-a* in the Knossos textile tablets with the Homeric φᾶρος.¹⁵ A χλαῖνα is worn by all classes but by men only. It is primarily an over-garment for warmth but is also used as a blanket. It is assumed to be made of wool¹⁶ and is an open piece of cloth, not sewn, which may be dyed red or purple. Like the cloaks in the Linear B tablets, the χλαῖνα, at least, could be single or double.

These distinctions between the two mantles are evocative of those in the Thera paintings. The white ceremonial garment is likely to have been made of linen and is worn only by personages of a certain rank. The coloured garment is worn by a larger majority of men; it has been dyed and is likely to have been of wool (see below); in some cases the small lines indicating hair suggest that an animal hide may have been used (Pls. 133–4). Such a garment would certainly be worn for warmth.

On the North Wall it is the men nearer the flocks of sheep and goats who wear coloured versions of the cloak (Pls. 129–30, 132); they also hold staffs. Thus it is shepherds in this instance who wear the woollen cloak. Present-day shepherds in parts of northern Greece still wear similar capes.¹⁷ The shepherd's cape in Pl. 131 has an optional sleeve, a feature which may explain why, in the paintings, the arms may be free or enclosed.

In conclusion: of the long robes worn by the men in the miniatures, the white version, double or with bands, is a ceremonial garment, probably of linen, worn by those of a certain rank or when performing certain functions; whereas the other, single cape is made of wool (perhaps occasionally hide) and is considerably more common, being worn by men in all three communities. The wool

cloaks of the men from the North Wall belong to shepherds, and we may deduce a pastoral occupation when the garment recurs on the South Wall.

Loin-cloth

A variety of loin-cloths or kilts were worn by the Minoans¹⁸ and several of the known types appear in the miniatures. Many of the wearers are distinguished by their activities.

On the North Wall, three or four men wear a loin-cloth. One of the central figures on the left side of *The Meeting on the Hill* wearing the garment is further distinguished by his votive gesture (Pl. 125). The loin-cloth is white and falls in a long arc behind the man's legs, while a similar piece of fabric hangs in front. It may be edged in black and held by a black belt, unless this is simply a thick brush-stroke used as an outline. The man immediately behind him holds his arms in the same gesture; only his torso is preserved but he probably wore the same garment. The other men in this line have not been preserved. The line is led by a man wearing the long ceremonial garment discussed above (Pl. 127), but he himself is distinguished from those in front of him (in the right-hand line) by long Minoan-style locks. It may be that an ethnic distinction is made between the left- and right-hand lines of men.

In the adjacent scene (Pl. 82), the goatherd leading the lower line of flocks is clad merely in a belt with a short piece of fabric behind. It is red ochre in colour, only slightly darker than the man's body. Presumably, the piece of cloth was tucked up between the man's legs and attached to the belt at back and front. It is likely that this simple garment was normally worn beneath the shepherd's cloak. The loin-cloth differs in size, shape and colour from that of the man in *The Meeting*.

In the scene below, the man at the helm of the ship is dressed in a loin-cloth (Pl. 3). The plaster is cracked at this point in the composition, but he appears to wear a black belt with a white arc-shaped cloth behind, similar, though less pronounced, to that of the man in *The Meeting*. A line cutting across the far-side leg suggests that the garment hung in a straight line in front, only curving in the longer piece behind.

On the South Wall, the loin-cloth is worn by a number of men and boys in the Arrival Town, mainly by those in active pursuits (Pl. 13). Some appear to have no clothing at all (Pl. 135 ? and the fishermen in Pl. 136). Generally, however, a small area of darker red around waist and buttocks suggests a loin-cloth comparable to that of the single goatherd on the North Wall. Four or five of the small figures beneath the town wear a white loin-cloth, visible only at the back (Pls. 137–8). Two men wear plain

kilts, one to mid-thigh, the other excessively short (Pl. 137 (left)).

Other wearers of the loin-cloth are those actively working on the ships: the helmsmen and the man paddling into the harbour in the small fishing boat (Pl. 160). (Paddlers also wear loin-cloths in the Kea miniature fragment in Fig. 61e.) In most cases, the garment is comparable to that of the man in *The Meeting on the Hill*: long, arc-shaped, flowing behind and in front of the legs. Two are distinctive. The garment of the helmsman on the rowed boat beneath the Departure Town (Pl. 159) has two internal lines. Either these are stripes, or the artist has twisted the body around to face the spectator and the upper oblique line should be interpreted as the outline of the frontal fabric, and the lower horizontal line as a hem-band. One of the men paddling the small fishing boat in the Arrival Harbour (Pl. 160) wears a kilt with horizontal lines. Although it resembles Mycenaean shorts (as on the lion-hunt dagger), it is more likely to represent a single garment with woven stripes; the dip in the lower stripes would then be a means of indicating that the material is creasing as it falls across the thighs. Most distinctive is the garment worn by the man in front of the helmsman on Ship 1 (Pl. 126): a short, plain white kilt with a thick hem-band comparable to the hem-bands of the ceremonial robes in *The Meeting*. The man holds his arms in the exact votive gesture of the loin-clothed men in *The Meeting*. A narrow roll at the waist indicates a belt on the garment. (The artist – not the restorer – has neglected to paint a leg on this figure, for fear of obscuring the faces of the seated men beneath.)

Five types of loin-cloth can be distinguished in the paintings and all have parallels from Crete: (1) a short kilt with hem-band; (2) a plain (or in one case, striped) kilt; (3) a loin-cloth long at front and back, but cut away at the sides; (4) a loin-cloth with the fabric cut short and straight at the front and dipping into a longer piece at the back; (5) a very short loin-cloth visible only as a belt with a small piece of fabric covering the buttocks. Presumably the latter, at least, was tucked under the legs and attached at the front to the belt; the others may have included an under-covering but none of the men in the paintings wears the distinctive Minoan cod-piece.

(1) The short kilt with wide hem-band (or overlapping fabric) may have been of ceremonial significance, the band having a similar function in determining role as that on the white cloak. Parallels are few, e.g.: on a seal impression from Ayia Triada, a man wearing such a garment hands a conical rhyton to a seated woman;¹⁹ on a seal impression from the Temple Repositories, a man holding a bow wears a similar garment, with overlapping fabric;²⁰ on a gold ring from near Herakleion a man on a ship standing near the helmsman wears the same garment

and holds his arms in a votive gesture (Fig. 89), a context significantly close to that of the Thera painting. Hem-bands also occur on the arched loin-cloth of the right-hand boy on the Chieftains Cup,²¹ and frequently on shorts both on Mycenaean and Cretan artefacts and in the Kea miniatures.²²

(2) The plain kilt is worn by two men in the Town Mosaic (Pl. 190). The garment worn by the man on the Phaistos Disk (sign no. 1) is similar, though it rises at the side.²³ A longer, more elaborate version with central tassel is worn by the Master of Animals on the Aegina pendant (Fig. 49) and the men in the Knossos Procession Fresco.²⁴

(3) The loin-cloth which is long in front and behind but cut away at the sides is seen on, for example, the men of the miniature frescoes from Knossos and Tylissos and recurs on a bull-leaper in a fresco fragment from Pylos.²⁵

(4) The loin-cloth cut short and straight across the

front but dipping into a longer arc at the back is shown on, for example, the man with spear by a palm on the Naxos seal in Pl. 34; and the warrior with lioness on the Temple Repositories sealing in Fig. 31.

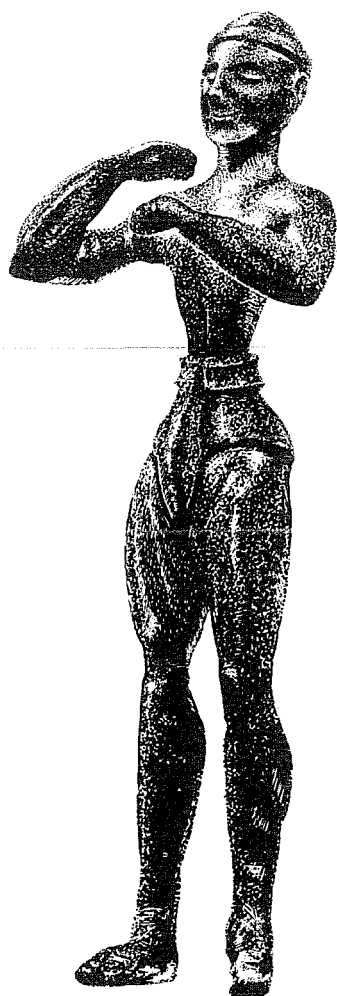
(5) The very short loin-cloth depicted as a belt with a piece of fabric covering the buttocks is the most common Minoan garment of the period under discussion. It also occurs on Mycenaean artefacts, although in such cases it is impossible to say whether the man represented is a Minoan or a Mycenaean. Examples from Crete are the male votary on the Central Shrine ring-impression in Fig. 28; a man at a hill-top sanctuary on a relief stone vase from Knossos.²⁶ The sealstone in Fig. 52 showing two men wearing this garment is of unknown provenance, but on stylistic grounds could be of island manufacture (perhaps from Naxos? cf. Pl. 34). On Mycenaean seals, in particular, men wearing this garment are frequently active in posture, allowing the far leg to be visible, and a small piece of fabric can then be seen tucked between the legs. On some figures this takes the form of a cod-piece (as on the lead statuette from Messenia in Fig. 62). On the Shaft Grave III sealstone in Pl. 147, the man wearing the loincloth has long flowing locks and may be intended as a Minoan in contrast to his armoured Mycenaean antagonist.²⁷

Nakedness

The majority of men in Aegean iconography wear some form of clothing, however slight; only very occasionally are men depicted naked.

It is often difficult to determine whether the small-scale men around the Arrival Town are wearing a diminutive red ochre loin-cloth or nothing at all; sometimes only a thickening at the waist suggests a belt (Pls. 135–8). These figures at times suggest boys rather than men, who may well have gone naked. The same is true of boyish figures in the Knossos miniatures.²⁸ However, the boy standing between two women on rooftops (Pl. 120) does wear a loin-cloth. The two small-scale fishermen in the Arrival Harbour appear to be naked (Pl. 136). This correlates with the nakedness of the two large-scale Fishermen of the panels (Pls. 198–9) and may be a function of occupation.

On the North Wall, the men drowning in the sea are all naked (Pls. 42, 139), in contrast to the man in a loin-cloth standing at the helm of the ship. The possibility exists that working sailors of the rowing class wore no clothes (we cannot see the lower halves of the paddlers of the large ships in The Procession); but the nakedness of these men has, I believe, an iconographic function signifying 'defeat' (as discussed in Ch. 11). Of the very few examples of naked men in Aegean iconography, most are also 'defeated' by water: the drowning figures in the Siege



62. Lead male statuette from Kambos in Messenia, height 12 cm.

Rhyton (Pl. 192) and on the Epidauros stone fragment (Pl. 194), and the sprawling figures on an inlaid dagger blade from Vapheio (where water is shown by wavy lines).²⁹ On the Siege Rhyton some, though not all, of the fighting figures are also depicted without clothing (Pl. 191).

The object attached to the back of one of the drowning men in Pl. 139 is problematic. In Ch. 5, I explained why I do not believe it to be an ostrich-wing shield as Marinatos postulated. Warren likens it to 'a small hide cloak'.³⁰

Female clothing

Two styles of female clothing are represented in the paintings. (1) The two women in the Pastoral scene on the North Wall wear a coloured wool (or hide) skirt with a plain white bodice (Pl. 140). (2) The women on the rooftops of the Arrival Town on the South Wall wear a striped garment (Pls. 142–3). Only the torsos of the latter are visible.

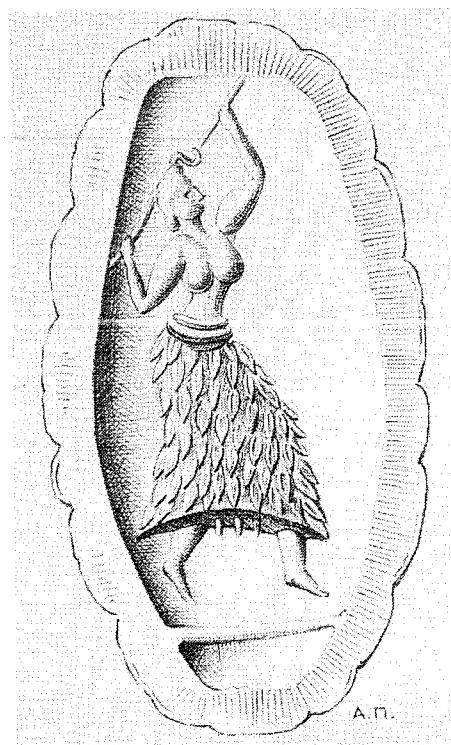
(1) The women on the North Wall belong to a pastoral community and wear appropriately practical clothing. The bodice or blouse on both women is white, sleeves ending just above the elbow. On neither figure is the top well preserved, but the bodice appears to be plain with a line indicative of an opening down the centre-front (left-hand figure).

The skirt reaches to the ankles; red on the left-hand figure, blue on the right. A black jagged outline on the red skirt suggests that the material is either of hide or rough wool. As with the shepherd's cloak, the garment may or may not show this feature. The skirt appears to be the female peasant equivalent of the shepherd's cloak. Rustic garments are not familiar from Aegean iconography, the grander styles of palace or ritual life being more frequently depicted. It is, therefore, of interest to note that the rural skirt is reflected in clothing worn in ritual contexts. Thus hide skirts are worn by the offering-bearers (male and female) on the Ayia Triada sarcophagus,³¹ and by female figures with horns ('snake-frames') flanked by lions on sealstones.³² The closest parallel for the Theran garment is the Vapheio seal in Fig. 63, where the holding of the stick (perhaps in dance) may have a cultic purpose but calls to mind the shepherd's staff, an ambiguity certainly apparent in the Pastoral scene (see below, Ch. 8, p. 118). A hide or rough wool skirt is worn by two women in a fragment from the Kea miniatures (Fig. 61d). The skirt is shorter than that of the Theran women and dips at the centre, but is otherwise comparable in fabric and colour (blue). The women are thought to be dancers, and hence take a different role from their counterparts at Thera. Yet the fragment is associated with the ceremonial

procession of men,³³ a situation which is analogous to that of the Theran North Wall.

(2) In the towns of The Ship Procession the women are all partially obscured by the balcony edge behind which they stand or sit, so that only the bodice is visible. In the Departure Town, a solitary fragment indicates that women were part of the community (Pl. 118). Only the head is preserved, and the reconstruction of the dress in terms of those in the Arrival Town is plausible though unsubstantiated. In the Arrival Town there are four groups of women, comprising a total of eight to ten individuals (Pls. 105, 108, 120, 142–3; cf. p. 82).

All the women are identically dressed and coiffeured. Either the painter of the frieze was uninspired by their clothing, or women of the community were unimaginatively alike in their appearance, or a garment of particular textile was uniformly worn by women on certain occasions. Most likely this was the every-day clothing of town women, contrasting on the one hand with the pastoral clothing of the peasant community and on the other with the varied ritual and festive garments of The Priestess and the women of Xesté 3 and the House of the Ladies. The garment must have been sewn, for it fits neatly over the shoulder and around the arms (see



63. Impression of a sardonyx amygdaloid sealstone from Vapheio, LH I–II.

especially Pl. 143, where both sleeves are visible). Comparable examples of clothing from Minoan–Mycenaean paintings suggest that the centre-front edges met only at the waist and the garment was otherwise virtually open at the front. In several instances, a line drawn around the neck suggests an under-garment covering the front,³⁴ but there is none here. On the women of Xesté 3, the artist depicts both frontal and side views of the same type of garment (albeit of different fabric). In the side view (Pl. 40) both sleeves are shown (with far arm raised) but only the near side of the centre-front line, shifted to the side, implying that the front is open. On the front view, the centre lines show that the garment actually covered the breasts.³⁵

The fabric of the garment has stripes of black and white. As elsewhere in the Theran paintings (the swallows of the Spring Fresco, The Boxers, The Fishermen, the women of Xesté 3 and the House of the Ladies), the artist here has experimented with perspective. The woman in Pl. 143 turns her body slightly towards us; the woman behind her (Pl. 142) turns her body slightly away from us, showing side and back of the garment. This manoeuvre enables us to see that the stripes are not oblique, as we might have thought. When the fabric falls over the back the lines are straight, when it falls over the front it follows the contours of the woman. The lines on the sleeves continue in the same direction as those of the bodice, only changing with movement of the arm, so that we may deduce that the garment was cut and sewn in three pieces only: (1) back with back of sleeves; (2) left front with left sleeve-front; (3) right front with right sleeve-front. Seams would be needed only at the sides, not around the shoulders.

Unlike many of the more elaborate decorations on Minoan–Mycenaean garments, these stripes suggest a woven rather than an embroidered pattern (see below). The striped black-and-white fabric is not usual on garments in wall paintings, but has an unexpected parallel in LH III figurines. Significantly, two figurines found at Akrotiri appear to be the earliest known examples of figurines with stripes, though they do not conform to known types.³⁶ A ‘Naturalistic’ form (of which the figurine from Kea in Pl. 141 is an example) preceded the stylized Phi, Psi and Tau types.³⁷ This type occurs in the areas with strongest Cretan connections at the time – the islands (Kea, Melos), the west coast of the Peloponnese, Laconia, and the Argolid – and French suggests that the style of dress with open bodice is of Cretan origin. But if the style is Cretan, the stripes are first perhaps Cycladic, then quintessentially Mycenaean, and the Theran painting provides a connecting link. For the women in the painting indicate that fabric woven into black-and-white stripes, apparently familiar to

Mycenaean women of the 14th–13th centuries, was already fashionable on the island around 1500 B.C.

Materials

Since textiles are not amongst the preserved archaeological remains of the Aegean, secondary sources must be relied upon for information. Wall paintings often include vivid depictions of clothing and sometimes, indirectly, show the raw materials used in their manufacture (the flock of sheep on the North Wall (Pl. 82) evokes the source of woollen garments). The Linear B tablets are of fundamental importance in this instance, as a large proportion of the Knossos tablets deal with textiles. Faunal and floral remains help little in establishing the raw materials but the archaeological finds of spindle whorls and loom weights can provide evidence of production. From a broader perspective, later authors (in particular Pliny) and contemporary Bronze Age texts and iconography from Egypt and the Near East all add to our understanding of ancient textile manufacture.

Linen

A number of vegetable basts (fibres) can be used for the production of coarse textiles³⁸ but linen, a fine but strong textile, is produced only from the annual cultivated flax *Linum usitatissimum*. Wild flax plants grow in the Mediterranean lands. Evidence for the cultivation of flax in Greece during the Bronze Age is circumstantial. Flax is usually treated as a farm crop and is notoriously exhaustive of the soil.³⁹ This disadvantage was known to Pliny, and the Greeks and Romans imported their finest flax from the main outlying area of cultivation, Egypt.⁴⁰ Flax was cultivated in Egypt and the Near East since the Neolithic, as it was in Europe, and played an important part in the economy of Syria and Palestine.⁴¹ Depictions of the cultivation of the plant and production of the fabric appear in 12th and 18th dynasty wall paintings.⁴²

In the Aegean, linen was certainly in use during the Bronze Age. Flax seeds were reported from Lerna (EH II),⁴³ though this is not conclusive evidence for the cultivation of flax or even for the production of linen.⁴⁴ Traces of linen were reported from an EM I context in a tomb at Mochlos.⁴⁵ Among the few textile impressions known from the Aegean, one on an Early Cycladic dagger was identified as linen.⁴⁶ A fragment of linen was found on an LM IIIa sword from Zapher Papoura.⁴⁷ Another fragment, fourteen layers thick, was found in Shaft Grave V at Mycenae, and it has been suggested that it was part of a linen corselet.⁴⁸ Linen is recorded in the Linear B tablets from Pylos. Tablet L394 records one cloak and one tunic of linen; tablet J693 distinguishes the linen of a tribute (?) tunic with the adjective ‘fine’.⁴⁹

The Aegean peoples may have imported the fabric, but it is more likely that the raw material in the form of flax fibres was worked by home craftsmen. The occupation of flax-worker is mentioned in the Linear B tablets.⁵⁰ Production of linen fibre is laborious, involving stripping the seed capsules (rippling), soaking the stems (retting), extracting the inner bast fibres, which are then beaten (skutching) and combed out (hackling), before they are finally ready for spinning.⁵¹ It must have been a costly fabric compared with the more easily available and producible commodity, wool. Presumably there were different grades of quality, as there were in woollen garments mentioned in the Knossos texts (see below), and as there were in linen garments in Egypt.⁵² The highest quality grades of linen were reserved in Egypt for the garments of the high priests, the king or the gods; and only linen garments were to be worn by those entering the temples.

It is conceivable that this respect for linen is reflected in The Meeting on the Hill and Ship Procession. The long white garments worn by the participants in these ceremonies are distinct from the wool or hide materials worn by the nearby shepherds and townspeople and are likely to have been made of linen. The white loin-cloths, too, may be considered to have been of linen.

Animal skins

The processes of leather-work must certainly have been familiar⁵³ but, owing to lack of preservation in the archaeological remains and the difficulty of identifying leather in the iconography, the evidence is scanty. Leather-working is recorded in the Pylos tablets.⁵⁴

In the paintings none of the people wears boots or sandals and, while the ties at the necks of some of the cloaks may have been leather thongs, the only certain evidence of leather-work is the dappled shields and stern cabins.

Some of the coloured cloaks worn by the men in the paintings, and one of the skirts of the women in the Pastoral scene, have small lines on the surface which project beyond the edges of the garments. Certainly the lines represent hair, but it is uncertain whether the artist saw these as animal pelts with the hair still attached or as coarse woollen garments.⁵⁵

Wool

The staple material of textile production in the Aegean must have been wool from domesticated sheep, an assertion supported by the Linear B tablets (Ch. 3, p. 60). The mixed herding of sheep and goats in the Pastoral scene on the North Wall would be characteristic of some flocks. On the rocky island of Thera, where goats are still the easiest animal to keep, goat wool may well have been

used, accounting for the rough, hairy appearance of many of the cloaks and of the peasant woman's skirt (Pls. 133–4, 140). Goat's hair may be mixed with that of sheep, prior to spinning, or it may be used on its own for a warm coarse cloth.⁵⁶

Wool is ideal for an over-cloak and was used as such throughout the ancient world as well as in Bronze Age Europe. A shaped mantle made from a sheep's fleece is familiar from Sumerian and later Near Eastern art. In Egypt wool was used for cloaks for daily wear but was excluded from temples,⁵⁷ the material being thought to be 'unclean'.

In the Linear B tablets from both Knossos and Mycenae, wool is mentioned as the material of cloaks (woollen tunics also occur).⁵⁸ The distinction in the Knossos tablets between a large quantity of woollen cloth and a small quantity of linen appears to be reflected in the Thera paintings, the more common coloured and hairy robes being of wool, the white robes of linen.

Wool as an everyday material and linen for special occasions makes economic sense, for wool is considerably easier to prepare into thread for spinning. Preparation of the raw wool consists of sorting, cleaning to remove dirt and the natural salts and grease, and removing burrs, tangles and lumps until the wool is uniform. The last process is done either by carding, a method of loosening tangles with thistle-heads, or by combing the wool.⁵⁹ Wool is also a versatile material, for by varying the number of ply in the thread, the weight and warmth of the fabric can be controlled without affecting the degree of softness (unlike linen which becomes coarser as it becomes thicker). Various grades and hues of wool may be obtained by selective breeding and the importation of quality fleece, a practice known in the ancient world.⁶⁰

In the paintings, the variety of shades of clothing may be at least partially representational. While the different colours of the sheep and goats may suggest mixed breeds yielding different hues and qualities of wool, the wool itself is likely to have been dyed prior to being spun and woven into cloth.

Spinning, weaving, bleaching and dyeing

Clay and stone spindle whorls from sites throughout the Aegean testify to the spinning of fibres into thread ready for weaving. Wooden whorls may also have existed, used for spinning light-weight wools; stone would have been for the heaviest yarns, double-ply wool or linen. Clay and stone loom weights testify to weaving: they are equally widespread and, like spindle whorls, first occur in the Neolithic.⁶¹ The large numbers of loom weights from EM II Myrtos led Warren to suggest a localized textile industry.⁶² Loom weights were found in quantity at Akrotiri.⁶³

Of the three types of looms in use in the ancient world – the horizontal ground loom, the vertical loom, and the warp-weighted loom⁶⁴ – the warp-weighted loom must have been the one most used in the Aegean Bronze Age. The frame stands vertically, but unlike the vertical loom in which the warp strands are attached to a frame at the bottom, the strands are held in place by loom weights.⁶⁵

Woven cloth is made up of warp strands which are mounted onto the frame, and weft strands which are interwoven through the warps by means of rods and heddles. The spacing of the warp strands determines the degree of open or closed texture of the weave. The so-called 'banner' ideogram, TELA (no. 159), in the Knossos textile tablets was interpreted by Ventris and Chadwick as an upright loom with weights on the warp.⁶⁶ Melena argues instead that the ideogram 'faithfully represents the cloth as it comes out of the loom', i.e. 'with the two ends of the warp unfinished'.⁶⁷ The number of lines at the base of the 'banner' varies, and Melena interprets these as indicating different types of cloth produced by altering the spacing of the warp. The two interpretations are not incompatible. If the lines represent the warp ends, they must represent them before the cloth was finished for wearing, i.e. in a state comparable to that which it had when still on the loom.

The people in the miniature paintings wear only plain or striped garments. The elaborate patterns, created either by applied embroidery or by techniques of weaving, which are evident in other wall paintings are not depicted. The different colours, applied to the entire garment or woven in stripes, do, however, indicate that the makers of cloth were familiar with techniques of dyeing or bleaching and of incorporating different hues within the weave.

Stripes may be woven into fabric by alternating the hues of the warp strands when attaching them to the loom or by alternating the weft hues in weaving.⁶⁸ As the weft runs selva to selva and thereby corresponds to the width of the loom frame, stripes woven into the weft are, on an average length of cloth, shorter than those incorporated into the warp. Assuming that the cloth was hung lengthways in making up a garment, weft stripes would run horizontally and warp vertically. The vertical stripes on the women's garments in the Arrival Town, like those on Mycenaean figurines, therefore suggest the use of warp banding. The horizontal stripes on the paddler's kilt in Pl. 160 suggest weft alternation. Probably both warp and weft stripes were manufactured.⁶⁹

The stripes are composed of white and black. Plain colours used in the clothing are white, red ochre, blue-black. Although yellow is used for the robe of The Priestess, it does not occur in the clothing of the miniatures.⁷⁰ Obviously the colours correspond to the painter's

pigments, but in this instance a degree of realism appears to have superseded the needs of design. No attempt is made to vary the white robes of The Meeting on the Hill, nor the garments of the women in the town. Linen cloth straight from the loom is grey-brown and must be bleached in the sun for several weeks to achieve the whiteness valued in this fabric. Linen does not dye well and is more efficiently used as a white cloth; furthermore it cannot be used in conjunction with dyed wool (for striped or patterned weave) since the tension of the two yarns would differ.⁷¹ Wool, on the other hand, takes dye easily. The dyes may be applied prior to being spun into yarn, or after spinning, fulling and washing⁷² but before weaving. The white and black stripes of the women in the town may consist of natural wools from differently coloured breeds of sheep. Black or brown organic dyes were known in the ancient world, obtained from oak-galls mixed with an alum mordant or from the shell of walnuts, but in general the selection of natural white, brown and black wools was preferred and mixtures of these were not uncommon.⁷³

A large number of organic substances were used in the ancient world for the making of red dyes for fabrics, the most common being the bodies of *Coccidae* insects; madder, from the plant *Rubia tinctorum*; alkanet from the root of *Alkana tinctoria*; and archil (orseille or litmus) from lichens such as *Lecanora tartarea* and *Rocella tinctoria*.⁷⁴ Both root plants grow in Mediterranean countries.⁷⁵ The lichens are common on the rocks of the eastern Mediterranean, and both Thera and Crete were producers of the dye in Classical times.⁷⁶ Purple is produced from molluscs, in particular the murex, which lives on rocks and in the upper coastal zone of the coasts of the Aegean and would not, therefore, have been a difficult creature to procure.⁷⁷ Large quantities of murex shells were found in an MM II context at Kouphonisi, near Palaikastro,⁷⁸ evidence which has suggested to some writers the existence of a purple dye industry in East Crete.⁷⁹ The dye also appears to have been manufactured on the islands, for murex shells have been found at the sites on Kythera (MM III context) and Thera.⁸⁰ Woad (*Isatis tinctoria*) was the principal source of blue dye in the ancient world during the Bronze Age.⁸¹ The plant grows throughout Europe and western Asia.⁸²

These are the dyes most likely to have been used by the Therans. Varieties of shade could have been obtained with any one dye by using different mordants in the process.⁸³

Hair

Male hair

Almost all the men in the miniatures wear their black hair

cut short. On a select few, a single projecting lock adds distinction. Two figures, only, wear their hair long.

The short style rises from the forehead and is cropped at the back of the neck in line with the chin, but leaves the ear visible (e.g. Pls. 123 and 125). This practical, if monotonous, style is worn by men in all professions: priests, shepherds and sailors on the North Wall, townsfolk, fishermen and sailors on the South. The painter makes only one major distinction: while on the majority of men the hair is smooth, on some a wavy or even spiky outline indicates curls (Pls. 16, 130, 139).

Although usually associated with the Mycenaean, the short cut was common amongst the Minoans and was also favoured in the Cyclades. It was the ordinary style, contrasting with the more elaborate long locks worn by men engaged in performance or ceremonial events. A close-cut version is shown on a marble head from Amorgos (MC).⁸⁴ A Middle Cycladic sherd from Phylakopi shows a stylized man with wavy hair;⁸⁵ it is comparable to that of a man on a sherd from Thera.⁸⁶ The men in the miniatures from Kea also wear their hair short (Figs. 61a and e). From Crete, a number of artefacts depict men with short hair, sometimes with emphasized curls. Examples of both smooth and wavy are shown on the man and boy seal impressions from the Hieroglyphic Deposit at Knossos.⁸⁷ The smooth short cut is most clearly shown on the Ayia Triada Harvesters Vase: the three singers behind the sistrum-player have curls, but the others have straight hair ending at the nape of the neck and projecting from beneath their caps. Sideboards are visible, and the hair leaves the ear free (most clearly on the sistrum-player).⁸⁸ A further example is provided by the men in the Palanquin Fresco,⁸⁹ and the men on the Ayia Triada sarcophagus. An artist who particularly enjoyed depicting curly hair was that of the acrobat on the Mallia sword pommel (MM III).⁹⁰ Spiky hair is shown on one of the warriors on the Cretan sealstone in Pl. 150. On the mainland short hair predominated. A good example is provided by the lion-hunt dagger (Fig. 34). Spiky hair is depicted by the artist of the Siege Rhyton (Pl. 191). Wavy hair is shown on gold and niello inlay heads from Pylos (LH IIIb?)⁹¹ and on men in the Pylos wall paintings.⁹² That men in cultic situations also wore their hair short is shown by the priestly figure on a seal from Vapheio,⁹³ as well as, of course, by the men in *The Meeting on the Hill*.

Long hair is worn by the centre-left man in *The Meeting on the Hill* (Pl. 127) and by the last of the rowers (towards the bow) on the boat near the Departure Town (Pl. 159). The latter has no parallels within the painting nor, to my knowledge, from elsewhere; the man has a crop of short hair like his fellows, but added to it at the back is an upturned lock like a stiffened pigtail. The hair-

style of the former is of a recognizable Minoan type: long trailing locks (perhaps plaited or twisted and greased in order to separate the pieces) fall down his back; at the front, apparently defying gravity, is a forelock. The style is worn by the leader of the left-hand line, one of the most finely dressed of the men. Behind him are men in Minoan-style loin-cloths. It is conceivable that the man is Cretan. His locks indicate distinction.

Long hair with a forelock was worn by both men and women. The spectators and dancers in the miniature Grandstand and Sacred Grove and Dance Frescoes, La Parisienne, the dancer from the Queen's Megaron at Knossos, and women from the Tiryns paintings are some of the female examples. The male spectators in the Knossos miniatures, the young 'chieftain' on the Ayia Triada Chieftain Cup, and the warrior without armour in the Shaft Grave III sealstone in Pl. 147 (a Minoan fighting a Mycenaean?) are male examples. The Keftiu represented in the Tomb of Rekhmire wear the same.⁹⁴ This was not a common style and is likely to have been reserved for certain personages or occasions. Male or female bull-leapers/catchers wore their hair long, as we see from the Knossos and Pylos bull-sports paintings, the Ayia Triada Sports Rhyton, and the Vapheio cups. Such a style is perversely inappropriate for a vigorous sport unless the performance has ceremonial significance, the locks thereby designating status. This seems to be indicated by the context of the majority of other examples and is emphasized by the man in *The Meeting on the Hill*.

The forelock of the long-haired man in *The Meeting* is repeated on the captain in the stern cabin of the flagship (Pl. 174) and the man seated behind the helmsman on Ship 1 (Pl. 126, left). A more unusual feature is applied to each of the helmsmen of Ships 1–5, to the man with crossed arms on Ship 1 and, in modified form, to the man pulling ropes on the sailing ship (Pls. 126, 173–7; Fig. 70). This is a lock perched on the crown of the head, miraculously curving upwards and even, on the man with crossed arms, forming an S-bend. Here is a distinctive feature applicable to a naval rank. The hair is otherwise identical to that of other men. The lock may be an added piece, or, more likely, strands of the natural hair pulled up, twisted and stiffened into shape by some substance such as lanolin or tallow.

Aegean sculpture occasionally indicates the presence of hairlocks⁹⁵ but, though common in the Near East,⁹⁶ individual locks are unusual in Aegean iconography. Yet at Thera, hairlocks projecting from a blue (probably shaved) head were a local distinction, denoting youth, status and perhaps ritual participation, for both men and women: *The Fishermen* and *The Priestess* from the West House (Pls. 198–9, 180); *The Boxers*; the ladies from Xesté 3. Clearly the hairlock held a particular fascination

for the Therans, who created imaginative variations on an otherwise simple idea.

The specific feature of an upturned lock on the crown of an otherwise normal head of hair, as worn by the helmsmen in the miniatures, is particularly unusual. An abbreviated version is worn by one of the men in the Kea fragments (Fig. 61a). He wears the ritual robe and is part of the ceremonial procession. From A 1, Akrotiri, the Man with a Palm has short wavy hair with the addition of one or two projecting pieces at the crown (Pl. 32). They are painted blue rather than black and are therefore unlikely to be part of the hair itself but are instead perhaps feathers or palm-fronds. This is closely paralleled by the Captain of the Blacks at Knossos.⁹⁷

Otherwise, nothing quite like the Theran lock exists from the Aegean, and certainly nothing with such a specific usage as that of naval rank. Hittite charioteers are, on occasion, shown with a single curving lock extending from the crown of the head.⁹⁸ But the closest analogy in terms of usage is, curiously, to be found three centuries later on Egyptian sailors fighting in the battle with the Peoples of the Sea in the Medinet Habu reliefs (Fig. 84). Two locks extend from the crown of the head of the warrior-sailors, presumably also signifying a naval élite.

Female hair

Like their clothing, the hairstyle of the women of the Arrival Town is identical in each case. The women of the Departure Town and the Pastoral scene are badly preserved around the heads, but appear to be the same. The black hair rises loosely from the forehead and falls behind the ears. It is grown long, and the ends have been drawn up and attached in a low bun at the nape of the neck (perhaps with rings such as those of silver found at Akrotiri).⁹⁹ Pls. 142 and 143 show the style to best advantage. It is loosely tied and no attachment is visible (but then the treatment of these figures is summary: approximate profile, blob for the eye, line for the eyebrow, and no mouth).

Such simplicity is in complete contrast to the elaborate and varied styles of the ladies from Xesté 3. Amongst these, at least one woman holds her hair in place with a ribbon or fillet,¹⁰⁰ while two others wear a net or snood remarkably similar to styles worn in later Greece.¹⁰¹ We may assume that, in the miniatures, the vernacular style of Theran women is represented.

Aegean women, like those of the majority of cultures prior to the modern era, always wore their hair long. Sometimes it is depicted loose (as in the House of the Ladies), but in the hot summers of the Mediterranean it is practical to tie it back. The bun, either high on the head

or low at the nape of the neck, appears to have been worn mostly on Crete. The high variety is notable on the Piskokephalo figurines,¹⁰² but a mid-height version seems to have been more common.¹⁰³ Long hair with the ends tied loosely under is represented on a woman in a painting from the Cult Centre at Mycenae.¹⁰⁴

Summary

In contrast to the uniformity of the women in the miniatures, the men are defined as individuals or types by their appearance. A cloak was worn, on the one hand, by men involved in ceremonial functions, when the garment was distinguished by the addition of a hem- and neck-band (possibly indicating double weight) and, on the other hand, by shepherds, in which case the garment was plain, usually dyed and sometimes depicting the hair of the animal. The loin-cloth was worn by men in active pursuits and, in at least two instances, by men in ceremonial roles. In the latter case, the garment is white and either of the arched variety or kilt-like with hem-band comparable to the hem of the ceremonial cloak. In other instances, the garment is small and either white or red ochre in colour.

The majority of garments shown in the paintings represent woven and dyed wool, though the white robes and loin-cloths were probably of linen. Different weights and different degrees of softness must be assumed: goat's hair (or possibly skins) or goat-and-sheep hair mix for the cloaks, soft wools for the women's striped dresses and the men's coloured loin-cloths.

The different styles and materials of clothing are likely to have been determined by the roles and needs of the people within the society. The white linen robe with hem-bands is a ceremonial garment, and differs more in function than in form from the shepherds' woollen cloaks. The distinctions between the women's clothing is one of town and country. Even the differences between styles and material of loin-cloths may have been significant in their application to persons of different status. The prominent white (linen) loin-cloth is worn by men in the ceremonial Meeting on the Hill and by those holding the important naval position of helmsman. The smaller, red (wool) loin-cloth is worn by the herdsman leading his flocks and by the diminutive figures surrounding the Arrival Town. The hairlock is also a feature defining role.

Such distinctions in clothing and hair were common throughout the ancient world, and signified different status and occupation between people, as well as different occasions for the same people.¹⁰⁵ More will be said regarding the occupations, hierarchic positions, and ethnic distinctions of the people in Ch. 8.

ARMOUR AND WEAPONS

The warrior's panoply is distinctive, but not unique (Pl. 144). The boar's-tusk helmet, body-shield, and the use of two weapons – here spear and sword – are well known from contemporary representations and grave goods. These (along with the chariot) are the military innovations of the Shaft Grave era.¹ Typologies have been well studied and, with the notable exception of variety of helmet type, the main interest of the miniatures lies less in details than in the broader context of the warriors within the sequence of events represented and in their identity (Chs. 11 and 8 respectively).

In the North Wall scenes, a file of eight warriors marches from the coastline up a sloping hill. Only the four at the rear are well preserved (Pl. 144), the foremost figure is fragmentary (Pl. 145), and the remaining three can only be conjectured from small fragments of sword, spear and shield, and from the length of the intervening space. They are protected from head to knee in helmet and body-shield, yet walk barefooted and barelegged (without the greaves worn by later Mycenaeans). They march in step, in a single line according to artistic convention. In spite of their full attire, there is no sign of battle or of enemy; the warriors obviously belong to the same army.

In the scene below the warriors is a shipwreck. The relationship between these two scenes, which together form a genre, is discussed in Ch. 11. Two pieces of gear identify the sailors as land-warriors: the shields which float in the water among the drowning figures, and the long spears which are supported on the prow of one of the ships (Pls. 3, 42, 139).

Similarly, in The Ship Procession on the South Wall, the men in stern cabins and some of those beneath the awnings are identifiable as warriors by the helmets which hang above their heads and by the long spears resting

under the awnings and projecting behind the cabins (Pls. 9–12, 173–7).

Such a profusion of warriors in a variety of activities is unique in Aegean iconography. This is probably owing to an accident of preservation, for wall paintings inevitably allow more space for the depiction of events and the only surviving representations of warriors that are contemporary with the Thera paintings are on a smaller and more limited scale. The genre scene of warriors at a coast is worked on silver and stone surfaces (Pls. 191, 193), but the Thera frieze is the only certain example in a painting. Scenes of combat on the tiny surfaces of sealstones and gold rings are inevitably restricted to a few figures in hand-to-hand combat. Minoan mural painters seem to have preferred non-military subjects; while the later Mycenaean paintings mainly show warriors in one of two limited roles: in hand-to-hand combat or hunting. If more organized fighting tactics were employed in the Bronze Age there is no indication from the iconography.

It seems likely that close combat in the form of a duel had a heroic significance, both real and imaginary.² Mycenaean glyptic scenes (such as those in Pls. 146–7) give the impression of a controlled fight (cf. The Boxers from Thera and the Sports Rhyton from Ayia Triada), Pl. 146 in particular recalling modern fencing manoeuvres. The similar scenes of duels between man and lion, Figs. 32–3, represent a heroic feat of mythic proportions. It is in these duelling scenes that we are able to see how Aegean warriors used their weapons.

Sword

The sword is the principal weapon for hand-to-hand combat. But, while an excellent weapon for duelling, it could hardly have played a major role in warfare. Swords have been found in only a minority of Mycenaean, and

even fewer Minoan, graves. The relatively large amount of metal needed to give the blade effective range makes it expensive compared to arrows or spears (cf. the arrows and slings combat of the Siege Rhyton).

In the Theran painting, the swords are not shown in use, nor is the entire object depicted. Thus, clarification of the function and type of the weapon depends upon comparative iconography and archaeological remains. The typology of swords and daggers has been studied by several authors.³ It is generally held that swords at this time were of the thrusting kind (often called rapiers),⁴ the cut-and-thrust, or slashing, sword developing later.⁵ This opinion is confirmed by the glyptic scenes: the point of the sword is directed at the neck or shoulder-blade of the opponent (Pls. 146–50). (The ineffectual downward thrust may be further evidence that these are sportive duels rather than the combat of warfare.) Of the two main sword-types of this time – A and B (as defined by Karo for the Mycenae Shaft Graves)⁶ A, the longer of the two, is the more common. Thought to have developed in Crete, examples have also been found in the Peloponnese and on Amorgos.⁷ Type B, shorter but with a more efficient hafting system, is mainly confined to the Mycenae Shaft Graves (primarily Circle A), with some examples from other Argolid sites and a few from the Dodecanese, but so far no fully developed examples from Crete.⁸ Cycladic dagger types played a role in the evolution of the Aegean sword, and Amorgos has intermediary weapons of particular importance.⁹ Thera has yielded only a few weapons. Branigan cites two long daggers of unknown context.¹⁰ From the recent excavations, Marinatos published three daggers, one retaining traces of its wooden hilt.¹¹ One is a long dagger with three rivets, a type with a wide distribution.¹² A shorter, tanged dagger has six rivets. It is notable that the same number is found on Type B swords and on daggers from the Shaft Graves.¹³ A fragment of a blade inlaid with axe designs and part of a sword hilt, bought together from a dealer in 1873, are reported to have come from Thera.¹⁴ Dickinson considers that the provenance is reliable and that the two fragments may be from the same weapon.¹⁵ Again, the sword hilt corresponds to the Mycenaean Type B, not to the more widely distributed Type A.

Important though swords became for the warrior aristocracy of this period, daggers remained the more common weapon. The difference, however, is largely one of modern terminology and there is little consensus on the relative lengths.¹⁶ The long weapons projecting behind the warriors in the Theran painting are 'swords' rather than 'daggers', but Aegean warriors may not have made such a distinction. Only one word for the weapon has been identified in the Knossos arms and armour tablets.¹⁷

Representations of duelling scenes show that the same principles of fighting are applicable to either weapon (Figs. 32–3; Pls. 146–50). Only when the opponents hold a weapon in each hand is a differentiation in function made between the longer and the shorter: in Pl. 146 one protects while the other attacks.

The Theran swords hang down behind the warriors, projecting beyond their shields. Presumably the sword would have been placed in a scabbard and attached to a belt by a leather strap. In Fig. 33 the scabbard is attached to the waist, in Pl. 150 to the shoulder. It is not entirely clear whether the Theran artist has shown the scabbard or the sword itself. If it is the scabbard (as the downward taper would suggest) then the round end would be a chape, the metal cap placed at the end of the scabbard to protect it against the tip of the blade. The hilt of the sword would then be where one would expect it, within reach of the warrior's right hand. However, iconographic comparisons would suggest that the round end was the pommel of the sword itself. Blade and hilt would then be in side view.¹⁸ The few representations of scabbards have no chape (Fig. 33, which does however have a tassel; Pl. 150), whereas on swords a pommel is frequently depicted (Fig. 32; Pls. 146–8). Aegean luxury swords of the 16th–15th centuries were often highly ornamental and the area of the hand-grip was picked out for emphasis. Some wooden hilts were covered by a gold casing, or even more fragile material, and sometimes embossed with designs.¹⁹ The pommel, which served the functional purposes of limiting the area of hand-grip between it and the shoulder so that the sword should not slip from the grasp, and of balancing the weight of the blade, was also highly ornamental.²⁰ It may be that the artist wished to show the most prominent area of the sword and hence projected the pommel end behind the shield so as not to obscure it. Alternatively, the swords may be painted in the conventional iconographic position of fighting, albeit inappropriate to marching, in which the hilt is directed backwards (grasped by the hand) and the blade forward (as in Pl. 146).

Whether pommel or chape, on each a tassel is attached. Marinatos' suggestion that these are 'bandages'²¹ seems unlikely. The duelling seal in Pl. 146 shows such a tassel attached to the pommel, and on Fig. 33 it adorns the scabbard (without a chape).²² On the seal in Pl. 147, the object behind the attacking man may be a scabbard; the tassel would then be at the hilt end. The material of such tassels is likely to have been perishable: thin strips of leather, perhaps. A few examples may have survived: a gold tassel from Shaft Grave V was thought by Karo to have belonged to a helmet²³ but could have been attached to a sword; six similar gold tassels were found in the

dromos of tholos tomb 2 at Peristeria.²⁴ Hardly a practical feature and apparently uncommon, the tassel may have denoted rank or achievement and was perhaps reserved for certain occasions.

Spear

'The standard equipment of these warriors . . . appears to have been a single heavy spear and a short sword or dagger.'²⁵ Hood and de Jong's comment on the occupants of the Warrior Graves at Knossos is equally applicable to the warriors of the Thera paintings. Besides their swords, each man holds in his right hand a long thrusting spear. Long poles resting on the prow of one of the wrecked ships below may also be spears, as may be those stacked beneath the awnings and projecting behind the stern cabins of the ships in procession. The excessive length of those held by the warriors – judging from the height of the men they range between 2.4 and 3.4 m, with an average of 2.75 m – appears exaggerated. In other depictions of spears the length may be more or less the height of a man (Fig. 31; Pls. 34, 148, 150), but only on the lion-hunt dagger is anything like these bizarre proportions reached (Fig. 34). The casual way in which the Thera warriors hold their spears, with one hand clutching the base, is deceptive. Both hands would better support such a massive spear (cf. Fig. 34), and the muscle-wrenching position of these warriors would be hard to maintain.

Judging from the iconography, the long thrusting spear was one of the most popular weapons of the Bronze Age (Figs. 31, 34; Pl. 148). During attack, it was held in both hands and thrust forward in an almost horizontal line. The spear was then withdrawn so that the warrior retained it.

Smaller throwing spears or javelins may have been used for hunting. Evans identified javelins in the Knossos miniatures,²⁶ though they are not obvious. Throwing spears are probably carried by the Captain of the Blacks, by hunters in the Tiryns paintings²⁷ and by the helmeted hunters in the Orchomenos fragment in Pl. 158. The distinction between thrusting and throwing spears may be deduced from the different-sized spear-heads from the Warrior Graves,²⁸ and from the Linear B signs *enkhos*, a heavy thrusting spear, and *pa-ta-ja*, a short pointed stick, perhaps a throwing spear.²⁹

The spear was used in both warfare and hunting, but was paramount in the latter. The purpose of a spear is to attack the victim from a vantage-point sufficiently far away to avoid being attacked in return, a vital consideration when the prey is faster-moving, heavier, and equipped with potentially more dangerous weapons (teeth and claws) than the attacker. If the lion-duel scenes appear to us as caricatures of Herculean strength when

the warrior holds a dagger to the lion's throat (Fig. 32), they are less so when he holds a long spear and is protected by a shield (Fig. 34). In the Mycenaean boar-hunts – certainly representations of real-life scenes – it is the long spear which is thrust between the eyes of the charging animal.³⁰ The same weapon is used by the hunter chasing a deer in a fresco fragment from Pylos.³¹

Bodily protection in the form of a shield is frequently associated with the use of a spear. On the Battle in the Glen ring in Pl. 148 and the duelling seal in Pl. 150, the figures with sword or dagger as their weapon have chosen to retain the quickness and freedom of movement necessary for short-range fighting and wear no bodily protection, whereas the warriors with spears project their long weapons from behind the barricade of a tower-shield (cf. the lion-hunt dagger, Fig. 34; and the silver battle vessel from Shaft Grave IV, below n. 46). The principle is similar to that of fighting from behind a chariot-stand where the only offensive weapon is the spear.³²

The spear as it exists in the Thera paintings has not survived among excavated finds. It is a long shaft of wood without, notably, any sign of a head. This curious omission is not uncommon in Aegean iconography. In the Mycenaean paintings in which spears occur – at Pylos, Mycenae, Tiryns, Orchomenos – only a few are sufficiently well preserved for the end of the spear to be visible. At Pylos, one fragment of a warrior belonging to a chariot scene, and two others of men leading dogs, show the end of a spear; on none is a spear-head attached.³³ At Mycenae, the warriors of the Megaron frieze also carry spears without apparent heads; where the ends have survived the shaft terminates in parallel lines.³⁴ In the Ramp House painting of Horses and Warriors, a single spear is carried by one of the men, and this at least has a distinct lanceolate end.³⁵ So, too, do the light-weight throwing spears of the men in the Tiryns paintings. On these, even the midrib of the bronze spear-heads is delineated.³⁶ Yet the spear which pierces the hide of the wild boar is still a simple wooden shaft.³⁷ In the scenes on seals, on rings and on the lion-hunt dagger, the majority of spears are shown as a simple, unadorned wooden shaft; depictions of spear-heads are extremely rare (Pl. 34).

Spear-heads are, of course, known from graves. The most usual type is a socketed head with narrow lanceolate blade with a pronounced midrib, blade and socket of approximately equal length. The socket was fixed to the wooden shaft by rivets and bound by a metal ring. The type probably originated in Crete, was among the weaponry of the Shaft Grave warriors, and continued in use throughout the Mycenaean age.³⁸ Exceptionally fine spear-heads were found in all five of the Warrior Graves

at Knossos.³⁹ But their occurrence elsewhere is relatively sporadic. Dickinson comments that the spear is 'A weapon that could have been more effective than any, but is surprisingly rarely found, though often represented.'⁴⁰ Perhaps there is something in this anomaly. As an efficient killing weapon, there can be no doubt that an attached spear-head is a necessity. Yet it might also have been a luxury. A long, carefully sharpened wooden spear can be effective enough.

The spears carried by the marching warriors in the painting have no additions, the narrow wooden shaft being complete in itself. But while the spears resting over the prow of the ship below (Pl. 3) and projecting behind the stern cabins in *The Procession* (Pls. 9–11) are similarly without heads, a short horizontal bar has been added near the far end. Occasionally this feature can be seen on the spears used in duelling scenes. In Pl. 150, two short bars occur in the same position. In Pl. 148, the *Battle in the Glen*, the bars occur at three points along the shaft and a short tassel (?) is attached to each. Here the spear shaft may be made up of two or three pieces of wood socketed together.⁴¹ The function of the bar(s) at the top of the spear may be similar to that of a spear-head. A strong wooden bar delimits the sharpened offensive point, and enables the weapon to be easily removed from the victim. It is a system applicable to boar-hunting in particular, in which the bar prevents the boar from continuing to charge and enables the hunter to remove the spear quickly and to repeat the attack, thus inflicting multiple wounds on the animal.

The spears projecting behind the stern cabins of the ships in procession define the warrior status of the occupants of the cabin, as do the helmets perched on the tops of the struts and the hide structure of the cabin itself. The cabin ensemble echoes the warrior himself, who stands behind his hide shield, wears his helmet on his head and carries his spear. Yet almost certainly these spears would have had a secondary function as poles, applicable to their use at sea. In the ship in the *Shipwreck scene* (Pl. 3), three such poles project over the bow and a fourth is held upright by the sailor standing in the lookout post. The function of the object has changed to that of a sounding and punting pole used by the sailor as he approaches the shallow waters of the coast. Obviously the bar near the end would be a necessity in this case, preventing the pole from sinking into the mud and dragging the sailor overboard in his effort to retrieve it. The pole is being used in just this way by the helmeted man approaching the coast in the Mycenae *Siege Rhyton* (Pl. 191) and possibly also in the *Epidauros fragment* (Pl. 193). The simplicity of the structure of the spear – a long wooden pole – enables its function to alter according to where it is being used and by whom.⁴²

Shield

The large body-covering shield worn by the warriors is characteristic of the 16th–15th centuries. (Anachronistic reference is made to the type in the *Iliad*.)⁴³ This rectangular or 'tower' shield appears to have been less common than its contemporary, the figure-of-eight; the latter is well known from a great number of representations, many of which suggest cult associations.⁴⁴ Both shields were worn by warriors of the Shaft Grave era but were largely superseded in LH III in the new age of body-armour and small round shields.⁴⁵

The rectangular shield is nowhere more numerous than at Thera. It is worn by all five of the surviving marching warriors (Pls. 144–5) and at least three float in the sea alongside the drowning figures below (Pls. 3, 42, 139). This total of eight (minimum) from one painting almost equals the number of previously known representations throughout the Aegean. All but one of these belong to a single, short time-span.

From Mycenae: the lion-hunt dagger (Fig. 34) and fragments of a silver vessel with a battle scene⁴⁶ depict both figure-of-eight and rectangular shields in use simultaneously. On the former, the warriors join forces against the lions; on the latter, the differently attired warriors confront one another in opposition. One of the warriors on the *Battle in the Glen* ring (Pl. 148) is covered by a rectangular shield (seen in profile). A shorter version is worn by two of the men on the *Siege Rhyton* (Pl. 191, centre right); although it is sometimes suggested that this is a cloth chiton, the shape is apt for a profile view of the rectangular shield and the men carry sticks or spears, a weapon frequently associated with shield-protection. All these examples were found in Shaft Grave IV (LH I).

From Crete: on one of the MM IIIb sealings from the Temple Repositories a man accompanied by a lioness carries a spear and a short version of the rectangular shield (Fig. 31).⁴⁷ On a sealstone, now in the British Museum, a duel is fought by two warriors, one of whom wears a rectangular shield (Pl. 150). Kenna dates this seal to LM II,⁴⁸ but the subject and its manner of portrayal would be at home in LB I (cf. Pls. 147–8). The length of the warrior's shield matches that of the Thera warriors, and the spear has two bars near the top, as on the Thera spears. On a remarkably similar seal in the Metropolitan Museum (Pl. 149), an identical shield is worn.

Only one representation of the rectangular body-shield survives from later in the Bronze Age: on a krater fragment recently found at Tiryns in an LH III B2 context.⁴⁹ Doubtless others will be found in future years, but for the moment, at least, the distribution of this type appears to have been notably limited and, with the exception of the Tiryns anomaly, its time-span short. This point is perti-

nent to the question of the identity of the Theran warriors discussed below (Ch. 8).

Both types of body-shield are known only from representations. The almost complete lack of physical remains indicates that the structure was made of perishable materials. Indeed this would have to be so, for a shield of such considerable size would be too heavy to manoeuvre if it were constructed even partially in metal. A wooden frame is usually assumed for the initial structure, and over this hides were stretched.⁵⁰ In profile the shields evidently curved to surround the body of the warrior, providing a self-contained barricade against the enemy (Pls. 148–9) and serving to deflect oncoming missiles.⁵¹ In order for the shield to curve, a flexible strut, probably several, must have been held in place vertically between the skeleton frame. A single hide would be ineffectual against the onslaught of metal weapons, so we must assume that the shield consisted of a number of hides stretched one on top of the other. According to the Homeric account, seven hides were used for the tower shield.⁵²

The dappled covering of these shields leaves no doubt as to their origin. Either the artists were anxious to show that the shields were made of ox-hide and therefore painted the dappling as a 'sign'; or the dappled pattern was still visible after the construction was made. In the normal processing of animal skins to produce leather, the hairs from the outer surface are removed at the same time as fat from the inner surface. The hide would then be treated by a number of methods to prevent bacterial decay, the only permanent method being tanning with infusions from particular woods. But with these treatments, after the removal of the hair, the eye would no longer be able to distinguish the particular animal by its markings. However, a different process exists for the dressing of fur pelts. These can be salt- or alum-dressed and then stretched in the sun to dry. The hides would then become very hard and stiff (unless further treated with oils). Ox-hide, in particular, being naturally coarse, becomes exceedingly hard and inflexible if left untanned.⁵³ Obviously, while this would be a disadvantage for the majority of leather-work, it would be a distinct advantage for use as a protective shield. If the craftsmen of the Aegean treated their ox-hide by the method which includes drying it in the sun, the result would have been the toughest leather protection possible. Treated in this way, the hide would retain the dappled effect of the differently coloured hairs of the animal.

On the dappled figure-of-eight shields in wall paintings and on the lion-hunt dagger (Fig. 34), the generalized dappling is recognizable as ox-hide, for the same pattern is applied to representations of the animal itself: it is an

Aegean convention applicable to bovine hides. Until the discovery of the Theran painting and then of the Tiryns krater fragment, no examples of the rectangular shield were dappled.⁵⁴ But the painter of the Theran frieze was not content either with a plain surface or with conventionalized pattern, but wanted instead to indicate which particular animal each warrior was wearing. A visual pun is delivered in the varieties of hide displayed (see Pls. 2 and 3 for the whole scene). Climbing up the hill are the warriors who wear (starting from the back of the line) ox, goat, plain (sheep or goat), ox and (at the front) goat shields; in the water are goat, plain and ox shields. Walking above the warriors, with the same combinations of plain and dappled skins, are the sheep and goats themselves (Pl. 82) and, further along, two bulls one of whom has the distinctive ox-hide dappling (unpublished fragment, above, p. 56). Whether this is a faithfully pedantic representation of the materials used for the shields, or an artist's visual sense of humour, we shall never know.

Shields constructed out of hides stretched over wooden frames were common throughout the ancient world at this time; for these were the lightest, most practical materials in an age before corselets when the shield needed to be large to afford maximum body-protection. Egyptian shields from the Middle and early New Kingdom show the characteristic dappling of ox-hide on their outer surface, just like those from the Aegean.⁵⁵ Throughout the Near East, the rectangular form was the most common, frequently with a curved top for protection of the face. Only towards the end of the 14th century did the small round shield supersede the long rectangular form, introduced it seems by the Peoples of the Sea.⁵⁶

The Aegean body-shield was longer than those of neighbouring lands. It was too heavy and unwieldy to be held in front of the body, and was instead 'worn' by the warrior by attaching a strap (telamon) to the inside top of the shield which was then slung over the shoulder. The strap (presumably of leather) can be seen dangling from the black shield in the water in the Shipwreck scene (Pl. 139, lower left). It is well illustrated as worn by the figures on the lion-hunt dagger (Fig. 34). Here, the artist, not wishing to obscure all the figures by the large shields, has shown them as though they were wearing the shields slung over their backs (a usual position in marching but not, of course, in fighting). The strap can be seen reaching under the right arm and over the left shoulder. This way it would have stayed firmly in position, removable only by lifting it over the head.

The Theran warriors appear to be wearing their shields on their sides, with the front of the shield facing the spectator. This is how Marinatos interpreted them when he commented on the 'semi-circular groove in the left . . .

upper margin, serving for a better contact of the shield to the bearer's neck'.⁵⁷ He assumed that 'the right arm of the warrior was thus more free to handle the spear or the sword, hence the shield was a little displaced to the warrior's left side'. In fact it seems more likely that the shields are shown in true profile, and that the 'groove' is the side area of the upper edge which was cut away equally on both sides, leaving a higher curved centre to protect the warrior's face. It is understated in the Theran frieze, but can be seen more clearly in other representations of the rectangular shield (Figs. 31, 34; Pls. 148–50). (That true profile could be shown when representing shields is clearly demonstrated by the dappled figure-of-eight shield on the lion-hunt dagger.)

The shields floating in the water are considerably smaller than those worn by the warriors marching above (see Pl. 3). However, this may not necessarily indicate a different, shorter type of shield. A quick comparison of the height of the men drowning in the sea, the sailor at the prow, the marching warriors, and the pastoral men and women above, will demonstrate how varied scale can be in one small painted area. Unless the shields are being worn, the total overall length cannot be determined and the only criterion can be comparison of the width to length measurements. It is debatable, therefore, whether one may claim Minoan or Mycenaean identity for the Theran sailors and warriors on the grounds of the differing size of their shields.⁵⁸ Differentiation between the length of mainland and Cretan shields is arguable but the distinction is imprecise. Those represented on the silver battle vessel (n. 46) and the lion-hunt dagger (Fig. 34) reach virtually to the ankles of the men. It is easy to see how Periphetes in the *Iliad*, himself a man of Mycenae, could trip over the rim of his long tower-shield if it looked like this.⁵⁹ That on the Battle in the Glen ring must be mid-calf length (Pl. 148). The two examples from Crete are considerably shorter. But the diminutive size of the one slung nonchalantly over the shoulder of the man accompanied by a lioness in Fig. 31 should not be taken too literally. It is not worn but carried, and the position of the lioness' tail puts an abrupt end to the shield's possible length. That worn by the spearman on the sealstone in Pl. 150 is surely more reliable. This reaches to just below the knee: the same length as the shields worn by the marching warriors from Thera. If any indication of identity were to be made on the basis of length, it should be that none of the Theran shields is sufficiently long to be that of a Mycenaean. However, the issue is further confused by the shields (if that is what they are) worn by the men on the Mycenae Siege Rhyton (Pl. 191). These end above the knee. Are the men Cretans, Anatolians as some would have them, or Mycenaeans ill-portrayed?

The issue of the identity of the warriors in the painting

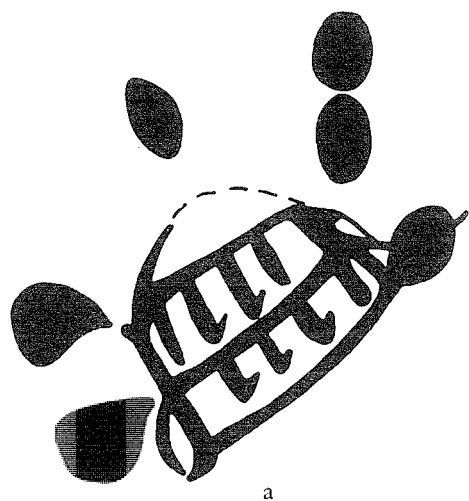
will be raised again in the following chapter. For the moment I shall summarize merely by saying that the distribution of the rectangular shield is restricted and instances of its use rare. It occurs on a few artefacts from Mycenae and from Crete and one from Tiryns, but in no case is it shown in such numbers as in the Theran painting.

Helmet

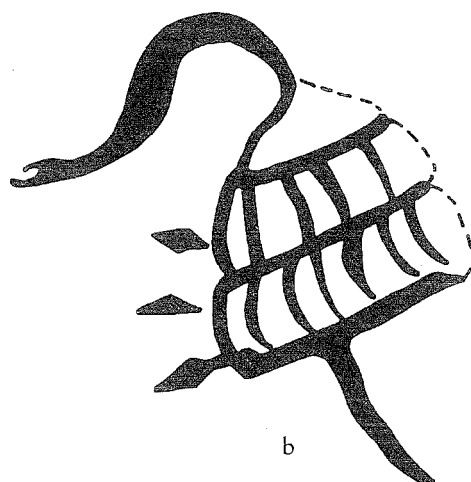
The helmets in the paintings are of two, closely related, Aegean types: the zoned helmet made of strips of padded leather, and the boar's-tusk helmet which is fundamentally the same leather cap but with rows of boar's tusks attached along each strip. Yet within these basic types there is a variety of structural arrangement and ornamentation. Of the ten or so well-preserved helmets in the miniature paintings no two are identical. The care in distinguishing between the details of each is striking considering the small scale on which the artist worked. In the enlarged drawings in Fig. 64, a and b are the helmets worn by warriors 1 and 4 on the North Wall (cf. Pl. 144); c–j are the helmets belonging to the élite passengers on the ships in The Procession; c, f, g, h rest on the vertical struts of the stern cabins, the others are hung from the central awnings. Presumably each belonged to the man seated below, although one hangs equidistant between two figures and many men are without them. It is notable that although four out of six of the large ships have helmets above the cabin (Ships 1, 3, 4, 7), only two have them below the awnings (Ships 2 and 7). While on the marching warriors they are functional, the disembodied helmets on the ships serve rather as a determinative signifying the martial role and possible status of each of the men.

This variety of types raises the question of national identity: can one distinguish between the warriors, either individually or as a group (those on land *versus* those at sea)? The question is approachable through the distribution patterns of the zone and boar's-tusk helmets, and the fascination of the magnificently baroque helmets of the Aegean has led to a number of detailed studies from which to draw.⁶⁰ Yet still there is no easy answer.

All the helmets are approximately conical, the shape most prevalent in the Aegean at this time and the most functional, serving as it does to deflect missiles.⁶¹ Most are rounded, while d, e, f and perhaps c have a point at the apex. The helmet is basically a glorified cap fitting tightly over the forehead. Homer's description of an (heirloom) boar's-tusk helmet might explain how it was fitted: the leather strips, over which the tusks were laid, were themselves laid over an inner felt cap.⁶² The stitched lining would provide strength and comfort as well as keeping

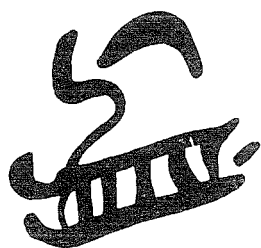


a

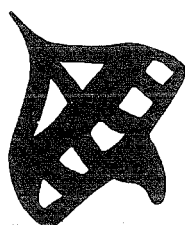


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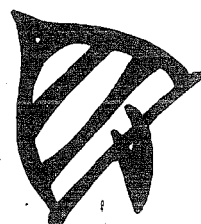
WARRIORS: NORTH WALL



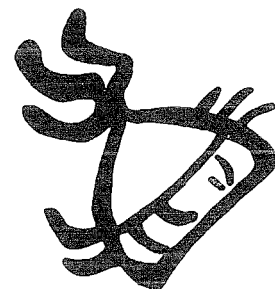
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d



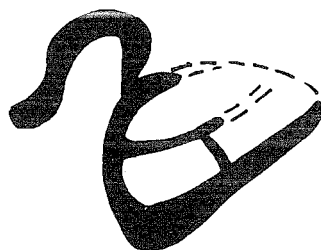
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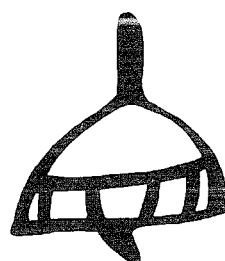
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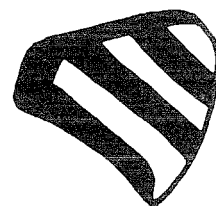
g



h



i



j

SHIP PROCESSION: SOUTH WALL

64. Helmets in the miniatures (enlargement, not to scale). North Wall: (a) warrior 1; (b) warrior 4. South Wall: (c) Ship 1, cabin; (d) and (e) Ship 2, awning; (f) Ship 3, cabin; (g) Ship 4, cabin; (h) Ship 7, cabin; (i) and (j) Ship 7, awning.

the layers taut. The cap is likely to have been custom-made for each man, perhaps independently of the leather casing. Representations sometimes show the inner cap projecting below the outer tusk-covered layer, protecting forehead, neck and cheeks (Fig. 66; Pl. 153).⁶³

Some early examples of Aegean helmets are plain, probably of stiff leather stitched in a vertical line (as in the Town Mosaic)⁶⁴ and rolled or with a rim at the base (Fig. 31). With the exception of these and of the rarer metal types, Aegean helmets were all constructed on the same basic principle. The outer protective layer was built up into its conical form by joining strips or 'zones' horizontally. The process is conveniently demonstrated by the variety in the Theran paintings. Examples c, d and f-i have only one visible join, between a lower band covering the forehead and an upper skull-cap. A vertical seam is shown only on d, where the pointed shape of the skull-cap could well have necessitated several joins. Examples a, b and j have two horizontal joins, using three pieces of material. To the top of e, a fourth piece is added in the shape of a small peak.

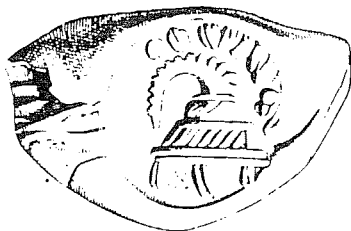
It is at once obvious that the difference between a zoned helmet and a boar's-tusk helmet is one of application. The cut slivers of boar's tusks have been applied to the two lower zones of the helmets worn by three of the four well-preserved warriors on the North Wall (a and b). The zoned helmets of the fourth (Pl. 144, second from left) and of the ships in The Procession have been left plain and only those with a single lower rim have the addition of a row of vertical lines. These are probably to be understood as tusks, although the type is unusual, other two-zoned helmets either having tusks in both (Fig. 65; Pl. 156) or none at all (Fig. 55). The helmet with plume and cheek-pieces in Fig. 55, from a sealing from Zakros, is otherwise remarkably like the Theran helmet i. The more usual number of zones is three (Fig. 66, Pls. 147-8, 153, 155, 157-8), although four, five and six are also known and the zoned helmet on the Isopata vase has as many as eight sections. It is not unusual for the uppermost section of the cap to be left without tusks, as in our examples a and b, but it is generally little more than a

peak or knob like the uppermost section of e rather than an entire zone (e.g. Pl. 157).

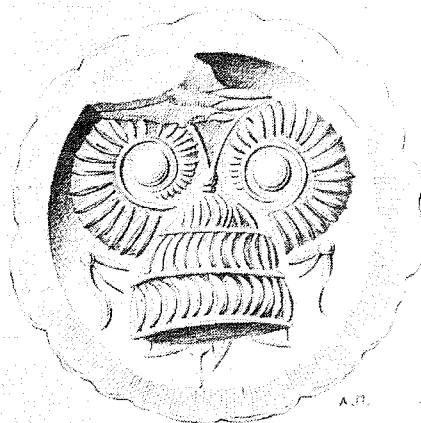
The zoning of helmets may have arisen from the need to pad the area between outer hide and inner felt for greater strength and protection. The outline of several representations suggests padding (Figs. 64b, 66; Pls. 147-8, 150-1)⁶⁵ and for the filling to stay in place the outer and inner caps would have to be sewn together at several points, just as in modern quilting.

The boar's tusks were cut to fit the width of each zone. The tusk was split lengthways and the outer curved edge placed over the slightly raised surface of the padded zone. They were cut at right angles and were laid edge-to-edge in alternate rows to left and right.⁶⁶ Such placing is clear on the LH III ivory warrior heads from Spata and Mycenae⁶⁷ and on the Vapheio seal of Fig. 66, but is hardly indicated at all in the Theran examples (slightly on b but not on a) or on those from Crete. This is not a chronological difference, as the helmets on the silver battle vessel from Shaft Grave IV already have alternate rows. It may be that the Cretan and Theran artists were less familiar with the details of construction than the mainlanders.

Finds show that holes were pierced through the tusk plates for attachment to the helmet.⁶⁸ All representations show a single or double line in between the rows of tusks (see especially Pls. 156-8; Figs. 65-6). The Theran Fig. 64a, with its shorthand version of the tusks, is unique in that these zone divisions do not actually cover the tusks. These lines presumably represent leather thongs stretched around the helmet, covering the edges of the rows of tusks.⁶⁹ Placed over the edges of the tusks and attached through the hole, the thongs would prevent a



65. Sealing from Ayia Triada, MM IIIb-LM I.



66. Sardonyx lentoid sealstone from Vapheio, LH I-II.

sagging effect of tusks from one row touching the ones below and would give the helmet a firm structural support. It is likely that thongs were also applied around the seams of the plain zoned helmets (perhaps sewn into the seams like piping) to give the outer surface strength and rigidity (compare the double lines on the Kean helmet, Pl. 153). On the Theran helmets it is to these thongs that the ornaments are attached (a, b, c, f). On helmet a the ends of the thongs hang from the zone divisions.

Aegean helmets were attached by two methods: a simple leather chin-strap, probably attached between the inner cap and the outer leather casing, as indicated on the Kean warrior in Pl. 153 (cf. Pl. 151 and perhaps Fig. 66) or ear-guards (sometimes wide enough to cover the cheek), which would in turn have had leather ties for under the chin (Pl. 158). In some cases the ear-guards appear to have been attached to the inner cap which extended behind to form a neck-guard (Pl. 154). Usually simply of leather at first, these were later adorned and strengthened with boar's tusks (Pl. 157, neck-guard, and Pl. 158, ear-guard).⁷⁰ The Theran artist, however, has not always chosen to depict these necessary attachments. Only b has a leather chin-strap, and d, e and i have a small ear-guard. The lack of attachment on the others is paralleled on the zoned helmets on the faience fragments from the House of Shields at Mycenae (Pl. 152),⁷¹ the shape of which (despite their LH IIIb date) strikingly resembles the Theran helmet j. Depictions of helmets without chin-attachments usually occur when the wearers are involved in some heroic or mythic feat (carrying a griffin: Pl. 157; fighting a lion)⁷² or are themselves mythical creatures.⁷³ It is understandable that the helmets on the ships are sometimes without attachment as they are not actually being worn. But helmet a, while having a surfeit of ornament, still lacks the means to keep the helmet on. Let us hope the warrior was not off to battle: his sword is out of reach, his spear unwieldy and his helmet unstable.

Decoration of the helmet was evidently desirable. Boar's tusks, while adding strength and impregnability to the construction, are also a trophy of the hunt and thereby a means of expressing bravery. For a man to decorate his helmet with rows of tusks he must have hunted a great number of wild boar. Estimates suggest 60–80 or as many as 150 tusks would be needed, implying that 30–40 or 75 boars must be killed to provide a single helmet.⁷⁴ The former estimate would be for a two- or three-zoned helmet, the latter for five or six zones plus neck- and ear-guards. Our helmets a and b might have needed around 50 tusks (25 boars), those on the ships about 28.

Besides tusks, the most characteristic feature of Aegean helmet decoration is the plume. It projects buoyantly

above helmets b, c, f, h and i, and a fragment can be seen above the third warrior from the rear, Pl. 144. In the Theran paintings the artist has made no provision for a plume-holder, but from more detailed representations it is clear that a pierced knob joined to the uppermost zone served this purpose (Pls. 148, 153, 156, 158; Fig. 66). Circular bone plume-holders were amongst the helmet pieces from Shaft Grave IV.⁷⁵ As Lorimer points out, these are pierced with several holes allowing the attachment of more than one crest, such as we see represented on the Vapheio seal in Fig. 66.⁷⁶

Some elaborate crests may have been made of ram's horns or of pieces of boar's tusk (Pl. 147; Fig. 66),⁷⁷ but most would have been of flexible material and almost certainly perishable, though gold tassels from Shaft Grave V and Peristeria, mentioned above in connection with swords, could have belonged to helmets (above, nn. 23–4). The divisions at the end of the Theran helmet b suggest multiple strands (cf. the third warrior in Pl. 144), as do the plumes on the Battle in the Glen ring (Pl. 148). Horse hair or an animal tail have been suggested for this type of plume.⁷⁸ The clearest instance, with lines indicating strands, occurs on the Kean marble slab in Pl. 153.⁷⁹ On the fresco fragments from Mycenae and Orchomenos in Pls. 157–8, the plume consists of a loop; but the stranded plume of the Theran example is more common. The plume of the Theran helmet f, however, is tripartite. When Lorimer discussed the sealstone from Vapheio in Fig. 66 she commented of the two tripartite objects floating in space on either side of the helmet that they 'do not seem to be susceptible of rational interpretation'.⁸⁰ Their shape is identical to the plume of helmet f, and it seems probable that we should interpret those on the seal as alternative plumes for the helmet. If this is so, it implies that a single helmet could be altered according to the wearer's needs or whims by the addition of specific plumes or other decoration.

By attaching non-functional structures to his helmet, a warrior was able to distinguish himself in the eyes of others. Discs have been attached to helmet a, lozenges to helmet b. On the helmets from the ships, only c and f (both from stern cabins) have projections attached to the body of the helmet. Such attachments are familiar from other representations, many contemporary, some from LH III. Yet despite similarities between these, no two are identical. They are therefore less likely to be signs of rank or troop than of individual distinction. A functional purpose for such projections was proposed by Lorimer, with reference to the Homeric *φάλοι* and *αὐλώπις τρυφάλεια* (metal projections from front and probably back of the helmet which touched each other when the wearers bent their heads): 'To turn . . . [sword] slashes was certainly a function of the projections found on various Bronze Age

helmets; the all-metal helmet with cheekpieces could and generally did dispense with them, but here and there they lingered as ornaments.⁸¹ Yet this does not explain the variety.

The attachments to the Theran helmets take three forms: large discs (a), angular projections (b), curved or horn-shaped projections (c and f). Attachments on comparable representations of helmets generally conform to these three types.

Large discs projecting externally (as on helmet a) do not, to my knowledge, occur on other representations. Yet discs are shown attached to the surface of the helmet, between the zones, on one of the Zakros sealings,⁸² on an LM II ivory relief from Knossos (Pl. 154), and alternating with boar's tusks on the helmet on the LM II Katsamba amphora;⁸³ they also occur on the helmets on the LH IIIc Warrior Vase (n. 41), where they have frequently been interpreted as metal attachments. It may be that discs, rather than tusks, are meant by the marks between the zones on the helmets on the Battle in the Glen ring (Pl. 148). A group of small perforated bronze discs from Shaft Grave IV at Mycenae were thought by Karo to have been attachments for leather helmets.⁸⁴ This would be a practical form of added protection if applied to the surface of the helmet but not if added in the form of projections as in the painting. Each of the discs on the Theran helmet a is attached to one of the leather thongs dividing the zones. They are large and if of metal would be heavy and noisy and unlikely to stand up on end as the artist has portrayed them. It may be that these particular discs were made of stiff leather, sewn onto the leather thongs. They would then have been either flat, stiffened pieces of hide, or padded spheres made of joined pieces of leather.

The lozenge-shaped projections on helmet b are smaller and could plausibly have been of metal, though I know of nothing like them from excavations. Similar projections are shown on two other representations: behind the helmet of the warrior on the Kean marble slab (Pl. 153) and in front of the helmet of the female warrior carrying a griffin in the Mycenae fresco fragment in Pl. 157. The slab from Kea is probably contemporary with the Theran painting and shows further similarities to helmet b in the chin-strap and the plume.⁸⁵

On helmets c and f two horn-shaped projections extend behind at the level of the lower zone. On helmet f three smaller, less curved projections have been added to the front. Although horns were common on helmets throughout the Mediterranean towards the end of the Bronze Age, the only clear contemporary comparison of which I am aware is the faience fragment from Shaft Grave III at Mycenae reproduced in Pl. 151.⁸⁶ In this it is clear that the front two projections, at least, are an organic extension of the zones; they probably represent a

continuation of the padded leather, curved outwardly at the point where the seam was made. On the Theran helmet c the projections similarly occur at the joining of two zones; they might be continuations of the thongs covering the seams. On helmet f they are more haphazardly placed. Such projections may also have been of hard material and several finds suggest that a variety of materials may have been used. Two lead horns from Dendra were interpreted by Persson as helmet ornaments, as were curved blue and green paste objects pierced for attachment.⁸⁷ Whole boar's tusks might have been similarly used as helmet projections.⁸⁸

In the light of the above discussion, it is clear that in reviewing the question of national identity for the Theran helmets it is not possible to draw a sharp distinction between Minoan and Mycenaean types on the basis of individual features. Most of those considered occur on both. The same applies to the basic distinction between zone and boar's-tusk helmets.

Zone helmets appear on seven to ten Cretan representations (three without provenance) ranging from MM II through to LM IIIb; the majority belong to the LM I period, contemporary with those of the Theran paintings. Their distribution is relatively wide: Zakros, Knossos (Palace), Isopata, Mavro Spelio.⁸⁹ To this list I would add the man with the shield in Pl. 150. A single example came from Kea (Pl. 153). Six (or seven) have been recorded from the mainland, five of which are datable to LH I, two to LH IIIb.⁹⁰ Their distribution is extremely narrow: all are from Mycenae, three from Shaft Grave III (Pls. 147, 151),⁹¹ one from Shaft Grave IV (Pl. 191), and the two later examples from the House of the Shields (Pl. 152). Thus it appears that, like the rectangular body-shield, the zone helmet was known simultaneously on Crete, the islands and at Mycenae (with particular emphasis on the occupants of Shaft Graves IV (shield and helmet) and III (helmet)). Borchardt suggests Knossos as the centre of distribution of the zone helmet, although there are early examples from East Crete. Equally, he stresses the simultaneity of use on the mainland, arguing against dependency on Crete.⁹² The Near East is suggested as the original stimulus, zoned helmets having been common there since Akkadian times.⁹³

Boar's-tusk helmets are frequently said to be of Mycenaean type, but although distribution is more widespread on the mainland, it is not exclusively so. Representations have been found at a number of sites, ranging in date fairly evenly between MH III and LH I (Mycenae) through to LH IIIb (Mycenae and Pylos).⁹⁴ They were found in Shaft Grave IV (only) at Mycenae (as Pl. 148), in chamber tombs at Mycenae, tholos tombs at Spata and Vapheio (Fig. 66), and, as recent publications tell us, in wall paintings from all the Palaces (as in Pls. 155–8).

From Crete, representations have been found at Knossos, Katsamba, Archanes, Episkopi Pediadhos, Ayia Triada and Zakros, ranging in date from MM III to LM III.⁹⁵ The scepticism expressed by some scholars regarding the earlier Cretan examples – the sealings from Zakros and Ayia Triada (Fig. 65), and a stone fragment from Knossos⁹⁶ – on the grounds that their depiction is summary and the lines not curved is, I believe, unjustified. Indeed, if they were valid criteria and not simply a misunderstanding of an artistic device the same must apply to the Thera helmets, for these too have somewhat straight and summary lines.

For boar's tusks to be added to zoned helmets, there must, of course, be boars available to hunt. This has been the strongest argument for restricting the boar's-tusk helmet to a mainland provenance. A great number of boar's tusks cut for use on helmets have now been found in tombs of the mainland, the earliest of which date from MH II (at Eutresis), and although a few are from LH III contexts the majority are from LH I–II.⁹⁷ Crete, on the other hand, has few examples, most of which belong to the period of Mycenaean influence.⁹⁸ Worked boar's tusks were, however, found in an LM Ia context at Poros, Herakleion.⁹⁹

Similarly, representations of boar-hunts are more numerous from the mainland than from Crete (above, n. 30). The Lasithi dagger with its incised boar-hunt was assigned by Evans to MM II, but has now been down-dated by Long to LM Ib–IIIa,¹⁰⁰ at which date the subject could have been influenced by the Mycenaeans. However, the Palaikastro relief of a charging boar is surely LM I,¹⁰¹ and a 'sacrificial knife' (or spear-head) recently found at Anemospilia at Archanes in an MM III context is incised with a boar-like image.¹⁰² Domesticated swine had been introduced into the islands in Neolithic times¹⁰³ and some of the animals could have turned feral. Wild boar-hunts are therefore not out of the question for Crete, though they are a more characteristic activity of mainlanders.

Nevertheless, boar's tusks are an easily transportable commodity and there is no reason why they should not occasionally have been brought to Crete or to the islands. The boar's tusks from Poros give evidence for the material on Crete in LM Ia. Tusks cut into plaques ready for mounting onto a helmet were found on Kea.¹⁰⁴ The history of Odysseus' boar's-tusk helmet expresses the possibilities of wide travel for such a prized possession. Having come originally from Boeotia, it travelled via Kythera to Crete:¹⁰⁵ a plausible enough route.

Judging from Aegean representations, one *might* say that in the Thera paintings the marching warriors are Mycenaeans, while those seated on the ships could be from any or all of the Aegean lands. But the identification

would be deceptively simplistic. For while mainlanders are more often shown with boar's-tusk helmets than the Cretans, they did not have the monopoly. Furthermore, the zoned helmet from which the type derived, though more common on Crete, was at home in both lands. The whole issue is thrown into further confusion by the fundamental fact that warriors were more often represented by the Mycenaeans. Thera has produced the first non-Mycenaean wall paintings with unequivocal representations of warriors.¹⁰⁶ Yet every Mycenaean site that has produced wall paintings has produced warriors. Most wear boar's-tusk helmets with minor variations; only at Pylos are there unique varieties worn by groups of men, indicating ethnic or cultural distinctions.¹⁰⁷

If helmets are functional objects of protection, they are equally a means of expressing rank and bravado. No helmet is complete without some form of decoration or sign of status; and Aegean warriors invented some of the most original in the ancient world. In battle or in military parades it is the head which is most clearly visible; hence enemies most commonly distinguish one another by their head-gear. But from Aegean representations of warriors it is quite clear that no such distinction can be made between armies. Men fighting one another may wear the same helmets (Pl. 148); or, as in the Thera paintings, men joined in a single aim may possess a variety of individual helmets. Rank may be defined by helmet-type and so may position within the army. Different shapes or decorations were worn by individuals in the troops of the Near East for this purpose or even for a non-military distinction between tribal origins.¹⁰⁸ But if amongst all the warriors of the Thera paintings not one is dressed in the same type of helmet, how were the onlookers to distinguish rank or origin? As most of the marching warriors preserved in the North Wall scene wear some form of boar's-tusk helmet, it may be said that here plumes and ornaments signify rank within one troop. But the extraordinary variety of the helmets of the men in The Ship Procession must be explained differently. Either these are individual representatives of different troops or regions, joined together for the purpose of this special celebratory event, or we must simply conclude that eccentricity, flair and imagination were the characteristics of Aegean helmet-makers and no self-respecting warrior would be without some distinguishing trait. This last explanation, unacceptable though it might be to an ordered view of the past, would go a long way to explaining the diverse distribution of types.

At the present stage, I do not believe that it is possible to distinguish with certainty the regional identity of Aegean warriors on the basis of their gear. The acquisition of such armour and weapons indicates powerful and wealthy men of high status. Whatever society they

belong to, the wearing of such a panoply would distinguish the individual as a man of importance and would define his role as a warrior. It is for this reason that the men seated on the ships hang their helmets above their

heads even though they are not in the midst of warfare or the hunt. The care taken to distinguish one helmet from another distinguishes the individual.

8

THE IDENTITY OF THE PEOPLE

Occupations and hierarchy

The people belong to both pastoral and urban communities. The most distinctive occupations outside these communities are those of mariners and warriors. A priestly office can also be recognized, although most of those taking part in the ceremonial events are distinguished by their attributes as belonging to non-ritual occupations.

The pastoral community on the North Wall comprises shepherds, a herdsman, and two women walking away from a well with pots balanced on their heads. The shepherds are shown in their functional role, leading sheep, and in a more specific role, taking part in the ceremony of the Meeting on the Hill (see Ch. 12).

In the urban settlements the position of men and women in the society is reflected in their different activities. Women (somewhat larger in size than men, which I take to be neither accidental nor literalistic) appear only in the buildings. Far from this suggesting domestic confinement, the frequent proximity of the women to horns of consecration implies that their role on this occasion was of religious significance. Amongst the men around the Arrival Town a distinction is made between the still, passive figures in long robes and the animated figures in loin-cloths. The men in white robes are presumably dressed for the occasion in their festive garments, though their robes lack the distinctive ceremonial additions applied to those of the men in The Meeting on the Hill and a few of the passengers in The Ship Procession. The men in hairy capes form an isolated enclave of visitors from the neighbouring Departure Town (cf. Pls. 134, 133). The active, scantily-dressed men include two fishermen with nets slung over their shoulders. Others run, like messengers, between the lookout post on the hill and the town with the nearby

robed men. Unlike the latter, who stand solemnly and without movement, these men run vigorously, one with head turned and arm outstretched in a beckoning motion. Along the base of the Arrival Town is a long line of men whose diminutive scale and scanty attire are comparable with the working sailors on the ships and boats; they, too, may be seamen.

Amongst the mariners hierarchy is firmly established. The paddlers are insignificant, their heads expressed as summary blobs. The discomfort of their crowded conditions looks acute, and led Marinatos to comment on the military discipline of the crew,¹ while another writer went so far as to speculate that the paddlers might be prisoners of war.² Rowers are mentioned in the Pylos tablets as fathers of the sons of women of humble status (though the assumption that they were slave women is tenuous).³ In the Knossos texts, however, rowers received or supplied an offering of cattle.⁴

In contrast to the paddling crews, the helmsman of each ship is individually defined. Each wears a short Minoan-style loin-cloth for ease of movement. Most are distinguished by an upright curved lock on top of the head, a feature which is not applied to any other figures within the miniatures and whose function must, therefore, be to determine role. The distinguishing lock and the comparatively large scale of the helmsmen indicate the high status of this occupation.⁵ On the best preserved vessel, Ship 1, the helmsman is further distinguished by a short beard (Pl. 126). In front of him stands a man whose posture and role are unique in The Ship Procession frieze. His hair bears a more prominent version of the lock, he wears a distinctive white kilt with hem-band and holds his arms in a gesture which echoes that of men in The Meeting on the Hill in Pl. 125.

The passengers are also drawn on a larger scale than the paddling crew. They sit in comfort in the spacious

decked area, protected from the sun by a central awning. They sit two abreast in some cases, singly in others, and they face one another.⁶ All the passengers wear long robes. Some have a central band and fastening at the neck, like the ceremonial garment of the men in the foremost positions of the ritual of The Meeting on the Hill. These are impractical garments for seafaring and point to the élite status of the men. Above the heads of some of the passengers hangs a helmet. This acts in the manner of a determinative, defining the role of the men when on land. They are not dressed as warriors and their martial status is therefore implied rather than manifest.

The foremost passenger is further distinguished from his companions. On the best-preserved ship (1), the man facing the prow is protected by a wattle-like structure, suggesting a balustrade or portable chair (Pl. 161). Projecting forward on the ships which are preserved at this point are poles or spears. These are analogous to (though shorter than) the spears stacked beneath the central awnings and held by the warriors on the North Wall. Here, however, they may have been used as punting poles in cases of emergency; for on one of the shipwrecked vessels the figure standing on the bow in his observation post is holding such a pole and more project from the bow (Pl. 3). Two or three more passengers sit aft of the central awning, wearing the same robes as their companions amidships. One sits with back resting against the stern cabin; the others sit facing him with backs against a rectangular structure covered in hide.⁷ The most important figure on each ship is the occupant of the stern cabin. He, too, is provided with the determinative of a helmet (here projecting above the cabin) and a long pole or spear projects behind.

While the ships' passengers are of warrior status, though not actively martial, the line of men in the North Wall scenes are immediately identifiable as warriors as they march up the coast in their complete panoply (Pl. 144). The helmets of these men, like those of the passengers on the ships, are individually decorated with discs, tusks and plumes. Rank or regional identity might be indicated by these features, but the wide variety suggests more that the warrior's helmet was a possession which allowed individual expression.

Just as warriors take part along with sailors in the ceremony of the Ship Procession, so men of different occupations take part in the ritual enacted in the Meeting on the Hill. The men meeting at the centre may well be priests. They are distinguished by hairstyle (Pl. 127), by additional hems increasing the length of their garments and by fabric trailing over the shoulder (Pl. 123). But not all the figures are so closely defined within a single role. The two men in loin-cloths on the left (Pl. 125) hold their arms in a votive gesture comparable to that of the man on

Ship 1. It is uncertain whether the same man is represented twice in the two scenes, but at least it is clear that the same function is being performed. The direct implication is that either naval men are taking part in the meeting, or a priestly man is taking part in the procession, or both. Similarly, men on the right side of the meeting wear coloured cloaks and carry sticks, identifying them with the shepherds in the adjoining scene (see Pl. 1 and Ch. 12). Priests, sailors and shepherds all appear to be taking part in the ceremonial gathering on the hill. On the ships, a comparably diverse gathering can be seen in the élite passengers. Their garments identify them with men in The Meeting on the Hill (white robe with ties and bands) and with the shepherds of the Pastoral Settlement and the urban dwellers of the Departure and Arrival Towns (coloured and plain white robes) (Pl. 128). Helmets hung above some of the men's heads identify them with the warriors. Men from all the settlements and presumably of diverse occupations are gathered together for the purpose of the Ship Procession. Through the device of reiteration the events in the various scenes are drawn together for comparison.

Gesture

A number of figures express with animated gestures their situation. The drowning men on the North Wall fall with rare grace into the sea (Pls. 42, 139); the women with pots raise their arms in order to balance (Pls. 16, 140); around the Arrival Town men run and beckon, excited with the news of the incoming ships, while others stride with arms swinging, one touching another on the shoulder (Pls. 135, 137–8). These men and women use individual, spontaneous gestures appropriate to the action of the moment. Other figures adopt conventional gestures of specific import.

Two of the men in The Meeting on the Hill raise their arms in front of their chests, elbows bent, with right hand higher than the left (Pl. 125). It is not a comfortable gesture and one assumes that it was not held for long. The position is close to that held by votive figurines found in peak sanctuaries, although usually one or both hands are placed on the chest or one fist may be raised to the forehead.⁸ The closest parallel to the Thera gesture is that of a lead statuette of a man in Cretan loin-cloth from a grave at Kambos in Messenia (Fig. 62). As in the painting, it is the man's right arm which is raised above the left. In all such votive gestures the hand is clenched into a fist. The context of the majority of the votive figurines – peak sanctuaries – corresponds to the context of The Meeting on the Hill. The figurines are representatives of the real votaries, the men who took part in the hill-top rituals. The painting shows the actual event (see Ch. 12).

The surprising aspect of the paintings is that the hill-top gesture recurs in another, entirely different context, namely *The Ship Procession*. As we have seen, a man on Ship 1 adopts the identical posture (Pl. 126). Marinatos interpreted this figure in terms of the Greek *κελευστής*: the man who strikes out the rhythm for the rowers.⁹ No instrument can be seen in his hands, however, and since this specific gesture is repeated in the two scenes (as Marinatos himself points out) we must assume that it had a similar function in both cases, and one can hardly interpret the men in *The Meeting* as striking the rhythm for the rowers. It is more likely that this gesture is one of votive import which is applied to men in both scenes because the two events share a common basis. The implication is that *The Meeting* incorporated ideas applicable to seafaring, while *The Ship Procession* incorporated ritual procedures related to those of *The Meeting*.

The second significant gesture is that of the man with the stick in *The Meeting on the Hill* in Pl. 129. I have suggested a new position for this fragment, between the Pastoral Settlement and the Hill, thus incorporating the man into the right-hand line of the Meeting (Pl. 1 and Ch. 12).¹⁰ The gesture is that of an outstretched arm with the hand grasping a short stick in a vertical position. The stick is an essential component, and it is relevant to note that it is held by several other men in the Pastoral scene under more functional circumstances. One is held above sheep by a shepherd, where its function is self-evident (Pl. 82). Another is resting on the shoulder of a man dressed in a shepherd's cloak walking past the building below (Pls. 97, 132). Here its function recalls that of the poles held by men in the Tyliossos and Kea miniature paintings, where in each case the pole is slung over the shoulders of two men and a heavy pot is carried between them.¹¹ The fishermen climbing the hill of the Arrival Town have similarly attached their fishing net to the end of a pole (Pl. 136). Sticks are held aloft by the three men standing above the building (Pls. 1, 130), apparently waiting to join the line of men in the hill-top meeting. The stick is a shepherd's staff and is carried mainly by men wearing shepherds' cloaks. The man in the fragment in Pl. 129 is, however, using the stick as an attribute with a ceremonial function.

There are iconographic parallels for this usage. A warrior accompanied by a lion on one of the Temple Repositories sealings holds a stick or spear with outstretched arms,¹² as does the man guarding a palm tree in the Naxos seal in Pl. 34. On a gold ring from Mycenae, a male votary stands before a seated female: he raises one arm in response to her raised arm and in the other hand holds a stick.¹³ On the seal from Vapheio in Fig. 63, a dancing woman in a hide skirt raises a stick above her head. The closest analogy to the man in the painting is

provided by the Central Shring ring-impression in Fig. 28. A man raises his hand to his forehead in reverence before a female figure on top of a hill guarded by lions and with a shrine nearby. The woman holds her arm outstretched before her with hand grasping a short stick in a vertical line. Both she and the man in the painting stand on a sanctified hill. The gesture is therefore applicable in this instance to a particular locale analogous to that in the painting.

The third gesture of importance is that of the woman seated before horns of consecration in the Arrival Town (Pl. 120, left). She raises her right arm with elbow bent, forearm rising vertically, and holds her hand with fist and thumb separated. This, too, is a votive gesture with well-defined parallels. The woman behind her also raises her arm but the position of the hand differs, perhaps more applicable to a wave than to a sign of reverence. Women with raised arms in an architectural setting occur in wall paintings from Knossos, Kea and Mycenae, as mentioned above in Ch. 4 (p. 83; Fig. 58). The raised arm gesture is commonly applied to female figures in glyptic scenes (Figs. 30, 59–60, 85), both to votaries and to those revered by others.¹⁴ But of greater significance is the application of the raised arm before horns of consecration. The monkey in the A 1 fragment raises a paw before a hill-top shrine with horns (Pl. 25).¹⁵ More frequently the gesture is applied to women. Thus in the ring from Mega Monastiri (near Volos) in Fig. 60 two women each raise their right arms, holding fist and thumb apart, while standing in front of a shrine with two pairs of horns of consecration. The use of the right arm, the precise gesture and the two pairs of horns are directly comparable to the scene in the painting. Other glyptic scenes (such as that in Fig. 59) show women with raised arms before a shrine, usually with horns, indicating that the idea became a standard image.¹⁶

Minoans, Mycenaeans, Therans

The question of the identity of the people in the paintings has been raised by several scholars.¹⁷ The diversity of their opinions indicates the tentative state of knowledge regarding local, island iconography. Akrotiri has, in its wall paintings, provided a new picture of island life at the beginning of the Late Bronze Age, unparalleled in scope. While we may look for, and find, recognizable aspects of Minoans and Mycenaeans, we may be confused by the interchangeability of such aspects and conclude that either the iconography is mixed or the population itself was mixed.¹⁸ A summary of these aspects is given in the Conclusion, Ch. 13, where the wider, international interests of Thera are considered. Here we shall simply

note the characteristics of the people which may be thought to suggest national identity.

The features of the men have been taken by Marinatos (and subsequently by Immerwahr, Negbi and Iakovides) to represent different anthropological types. Arguments have already been put forward against Marinatos' identification of Libyans (see above Ch. 5). The further assumption that the admiral and the officers are Mycenaeans is equally questionable. The basis for the assumption is a comparison of the profile of the 'admiral of the fleet' in the cabin of the flagship with that of a man on a seal from Shaft Grave Circle B, Grave Γ.¹⁹ The resemblance is spurious, relying on little more than an angular nose and short hair with forelock, examples of which can be found in Minoan as much as Mycenaean art. The so-called 'beard' may in this instance be an angular chin; but beards are in any case depicted on Minoan seals as well as on that of Shaft Grave Γ.²⁰ Distinguishing mainlanders by physiognomy is an implausible task when dealing with painted miniature figures. This is not to say that Mycenaeans are not amongst the men in *The Ship Procession*, merely that their identification by features is impossible.

The clothing and armour of the people have further been taken as evidence for particular nationalities. The loin-cloth, worn by two men in *The Meeting on the Hill*, a herdsman, men of the *Arrival Town* and the working crews of the ships, is certainly of Minoan inspiration. It is perfectly possible, however, that Therans adopted a style fashionable on Crete, and we need not take all men who wear loin-cloths to be Cretans. On the basis of such details, contrasts have been made between the 'Mycenaean' admiral and passengers and the 'Minoan' helmsmen and sailors.²¹ Yet the contrast is surely one of role rather than of nationality. The men in loin-cloths are those who are actively working, while those in cloaks are static figures in formal roles. The cloaks are a local phenomenon (in our present state of knowledge), for while parallels exist for the white robe in the iconography of Crete, the mainland and Kea, the coloured version and the general popularity of the garment are peculiarly Theran. The garment which most clearly shows the exchange of fashions at this time is the striped dress of the women in the towns. The plunging neck-line is of Cretan inspiration, but the woven stripes first appear on Thera and soon became characteristically mainland (see Ch. 6).

Even the armour of the warriors, which has been taken by most writers to be clear evidence of Mycenaeans,²² is equivocal. As discussed above (Ch. 7), the rectangular shield of the marching warriors is a rare item in Aegean iconography. To my knowledge, there are five certain and two more possible examples from the mainland (Fig. 34; Pls. 148, 191) – all but one from Shaft Grave IV; and

two certain and two possible from Crete (Fig. 31; Pls. 149–50). To this small count must now be added a total of eight surviving examples from Thera in the North Wall painting. The length of the Theran shields – to the knee rather than to the ankle – is comparable to the Cretan rather than to the mainland examples; but the entire issue is confused by the fact that we are dealing with depictions of warriors, who travel, rather than with local settlers, who remain at home, so that provenance is not always helpful. Amongst fighting warriors, the antagonists are sometimes similarly attired, sometimes differently; their identity cannot always be determined. It must also be remembered that since the Shaft Grave depictions of the rectangular shield were discovered long before those of Thera, an association between shield and nationality has been established. Had the reverse been true, we might have had a different impression, for there are more examples extant from Thera than from the Shaft Graves. If the question 'are the Theran figures Mycenaeans or Minoans?' is pertinent, it is equally valid to ask 'are any of the Mycenaean and Minoan figures really Therans?'

Much the same generalizations that have been applied to the shields have been applied to the helmets in the paintings. The boar's-tusk helmets of the marching warriors have been taken as conclusive evidence of the Mycenaean identity of the men. Certainly these helmets were more frequently depicted by the Mycenaeans and the tusks themselves occur on mainland sites, so the likelihood is that they were Mycenaean artefacts; they were, however, occasionally shown by Minoan artists as well (as Fig. 65). The assumption that the passengers beneath the awnings of the ships are Mycenaean warriors is based on a misinterpretation of the helmets which hang above their heads. These are consistently referred to in the literature as 'boar's-tusk helmets', and I myself originally made the same mistake.²³ As the enlarged drawings in Fig. 64 show, however, there is not a standard boar's-tusk helmet amongst them (though some may include a single row of tusks). All are based on the zoned helmet, which occurs on both Crete and the mainland, marginally more on the former. Each, however, has individual characteristics. Under these circumstances it becomes impossible to identify the nationality of the passengers on the basis of their helmet-style. The characteristics are either signs of regional identification or of rampant individualism.

With the provisos outlined above, on balance, one may say that the marching warriors have affinities with Mycenaeans and could conceivably be mainlanders; while the men with warrior attributes on the ships are of mixed nationality and include local inhabitants.

The inherent ambiguities in the identity of the people stem partly from our previous lack of knowledge of the

indigenous iconography of the island and partly from the eclecticism of the Theran people. Thus, while looking at the architecture in the paintings, we may see elements comparable to those in Minoan depictions (the Town Mosaic, the Zakros sealings, the Archanes house model) or in Mycenaean depictions (the Siege Rhyton). Such mixed impressions have led scholars to opposite conclusions: Immerwahr comments on the Minoan character of the Arrival Town, with its horns of consecration, and concludes 'surely this ought to be Crete';²⁴ on the other hand Negbi considers that the occupants of the town look Minoan, the architecture Mycenaean.²⁵ One of the closest parallels to the town is, however, in the site of Akrotiri itself (see Ch. 4). Similarly, The Meeting on the Hill represents an event hitherto considered to be exclusively Minoan: a ceremonial gathering at a peak sanctuary. There is, however, no necessity to conclude that the scene is set on Crete. The gathering shows none of the accoutrements familiar from excavated peak sanctuaries on Crete, and it is more pertinent to consider whether the scene represents a Minoan-inspired ritual which has been transported and possibly transformed by the Therans. (For further discussion of this view, see Ch. 12.)

Despite the divergence of opinions regarding the Minoan or Mycenaean identity of particular details in the paintings, a general consensus prevails that both Cretans and mainlanders were associated with the Therans and are probably present among the people represented in the miniatures. Negbi's conclusion is based on the questionable assumption that the Akrotiri settlement predates the richest of the Shaft Grave burials. She suggests that high officials like the ship's admiral sailed from Thera to the mainland taking their precious vessels and weapons with them; this, she considers, 'may shed some light on the origin of the people who were buried in the Shaft Graves at Mycenae'.²⁶ Less extreme views are posited by Immerwahr and Warren. Immerwahr considers that both The Meeting on the Hill and The Ship Procession show Minoans and Mycenaeans in friendly rather than hostile communication. In terms of the ships she comments: 'Minoans and Mycenaeans are here working together on whatever colonizing venture or expedition is depicted.' With this view, the supremacy of the Cretan navy and the concept of Minoan thalassocracy at this period are called into question.²⁷ Warren is not convinced by the idea of a friendly collaboration between Minoans and Mycenaeans and sees, instead, a distinction between Mycenaean attackers and Minoan defenders of Cretan land. Regarding the fleet, he comments that the

passenger-warriors could be Mycenaeans because of the helmets, but as the fleet is returning to its home port on Thera (the Arrival Town) the fleet is more likely to be Theran than Mycenaean. He therefore concludes that the warriors with the fleet may be Mycenaeans but the fleet itself is Theran; in this way the Mycenaean warriors may either be using a Theran fleet as mercenaries or the two peoples may be allies.²⁸ A slight discrepancy arises in that the Arrival Town, although set on Thera, is shown to have a Minoan element, and yet the Mycenaean-Theran fleet is said to be returning after raids on Crete. Warren attempts to counter the discrepancy by commenting that 'origins in one Cretan community certainly need not have precluded raids on other Cretan communities'.

All these views are based on distinctions between 'Mycenaean' warrior-passengers and 'Minoan' or 'Theran' sailors. Two points of detail, however, make such a distinction nebulous. In the first instance, the helmets hanging above the heads of the passengers are not Mycenaean boar's-tusk helmets, but are zoned helmets, each with individual characteristics. They may as well have belonged to Minoans, Mycenaeans or Therans. Secondly, the helmets are not hung above all the passengers' heads but only over some; therefore not all the men are defined as warriors. Furthermore, none of the passengers is actually dressed for warfare and the robes which they wear are also worn by men in The Meeting on the Hill, the Pastoral Settlement, and the Departure and Arrival Towns. A comparative lack of iconographic parallels on Crete and the mainland suggests that this is a local, Theran garment. It is hardly likely that these men were carrying out raids on their own people.

There are a number of iconographic details which indicate connections with the people of Crete and the Mycenae Shaft Graves. These are summarized in the Conclusion, Ch. 13, in a consideration of the wider implications of Thera's role within the Aegean. In terms of the people represented in the paintings, however, very little can be specifically defined as applicable to one and only one nationality. The only characteristically Mycenaean features are those of the marching warriors on the North Wall, though even these are not exclusively confined to the mainland. Amongst the other people, features characteristic of both Minoans and Mycenaeans may be detected, though inconclusively. These people may be Therans who have felt the influence of both Crete and the mainland, or they may contain a mixture of people from the three lands. In either case the implication is one of international verisimilitude.

THE SEA

9

SHIPS AND BOATS

Prior to the discovery of the Theran miniatures, knowledge of Aegean ships of the Bronze Age was based purely on the schematic depictions of glyptic surfaces and on simple models. Here, in *The Ship Procession*, is a flotilla of ships in motion manned by a full crew. The depiction is unprecedented; it provides valuable information on Aegean ship technology as well as an insight into a remarkable occasion in the sea-faring life of the time.¹

The vessels in *The Procession* comprise: six large ships and a cargo ship under sail (here numbered 1–7, left to right, starting with the top row), Pls. 9–12; Fig. 67 and Col. pl. C. In the harbours are three medium-sized boats: one under five-man oarage passing the Departure Town, Pls. 8, 159; two moored in the Arrival Harbour, Pl. 13. Also in the Arrival Harbour are four small fishing boats (one manned, the others moored). The vessels in the Shipwreck scene on the North Wall opposite are of the same type (though on a smaller scale), only lacking the additions of the ships in *The Procession*, Pl. 3. The fragile bowsprit is without individual motifs; the stern figure-head, projection and cabin, and the central awning (details which will be considered in turn) are all missing and instead there is a small lookout-post on the bow and a simple structure at the stern. The differences are evidence for the contrasting nature of the scenes: the shipwrecked vessels show the essential structure, while the ships in *The Procession* have been attired specifically for the occasion.

All the vessels have a continuously curved hull with sheer-line high above the water. The type is more characteristic of the curved sweep of ships on Minoan sealstones (albeit less exaggerated) than of the lower, angular line common to Early Cycladic and Early to Late Helladic ships.²

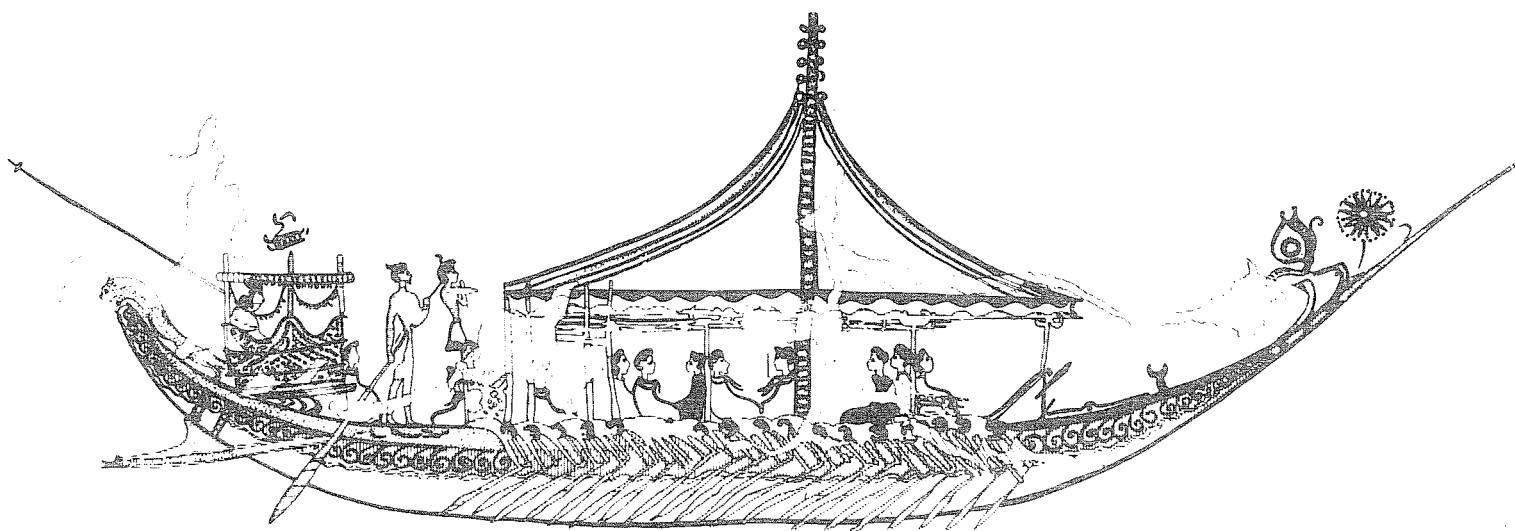
A striking characteristic of the ships in *The Procession* is the variety of methods of propulsion and the suggestion

of function and hierarchy implied in the differentiation. Thus the only ship under sail (Ship 6: Pl. 11; Fig. 70) is also distinguished by the central hold on the deck in which the mariners sit. It would appear that the ship is fitted out for cargo. An analogy with the asymmetrical shape of the hold is provided in the 6th dynasty Egyptian model of a cargo ship illustrated in Pl. 162.³ That the tradition was of long standing in the Aegean is shown by the seal from Platanos in Pl. 163, probably dating to MM I.

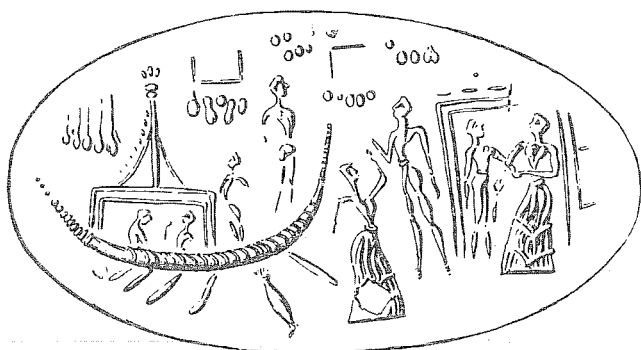
A ship approaching harbour would not normally be under sail. Indeed, the mariners appear to be in the process of lowering (or raising) the sail. Even so, it is surprising to find only one ship under sail amongst so many: if the wind were favourable for sailing, one would expect all the ships to take advantage of this. Two, perhaps related, reasons may account for this anomaly. (1) The ship under sail is shown by the presence of the hold to be carrying cargo and is thus less likely to be manageable by man-power (merchantmen generally travelled under sail). (2) If, as I postulate (Ch. 10), the ships are in a procession as part of a navigation ceremony, then one might expect to see a display of the various methods of propulsion used by the navy.

It is partly the methods of propulsion that suggest that this is no ordinary naval venture but a procession. For these ships, as their details reveal, could not be travelling a great distance. They make their way over a short stretch of sea between the two towns. Thus the usual sail and rig may be stowed away, the masts lowered, the oars abandoned and the ships propelled solely by paddle-power and coastline currents.

Of the other six ships, only two have their masts raised. Here they are utilized as a mark of distinction, for the two ships are the most important in the fleet.⁴ Ship 1 (Pl. 9; Fig. 67) is further distinguished by the presence of the



67. Ship 1. (After K. Iliakis.)



68. Gold ring from Tiryns.

man with the votive gesture discussed above (Pl. 126; pp. 117–18). While Ship 2, the flagship (Pl. 10), is distinguished by dress-ship lines and an elaborate decoration attached to the top of the raised mast.

The mast

The mast is likely to have been of composite structure: horizontal lines set at close intervals suggest wooldings binding short pieces of wood.⁵ Such bindings are indicated on Egyptian representations of masts (they can be seen on the lowered mast in Fig. 94 and the raised one on the Syrian ship in Fig. 75) and they were also used later in Greece.⁶ A composite mast is stiffer than one made of a single piece of wood, and the wooldings would have been useful, too, as a form of ladder for climbing aloft. The wood could have been fir; this was used for ships

mentioned in the Homeric epics, both for the mast and for the oars.⁷

At the top of the mast on Ship 1 (Fig. 67) are five pairs of rings through which the rigging passed. (The top of the sailing ship's mast is not preserved and that of the flagship (2) is obscured by bunting.) Obviously the rings would have run from port to starboard rather than fore and aft as the artist has depicted them. The rings have a rounded form comparable to those used in the Middle Kingdom in Egypt (Fig. 69 a–b) and do not incorporate the square block which was fashionable during the New Kingdom (Figs. 69c and 93). Such rings or 'eyes' in Egypt were generally made of copper, though, as Fig. 69a indicates, the rounded form of the Middle Kingdom was sometimes of rope.⁸ Bronze has been suggested for later Greek models⁹ and could have been the material used for the mast rings of earlier Aegean ships.

Ships on sealstones and rings are insufficiently detailed to show the structural components. Therefore until the discovery of the Thera painting neither the rigging nor the mast which held it were in evidence. It seemed that no other examples of ships in wall paintings had survived. Yet the clear depiction of the mast on Ship 1 enables an identification to be made for an otherwise obscure fragment from Pylos, illustrated here in Pl. 166. It was originally catalogued as a 'vertebral maypole'¹⁰ but can now be recognized as a mast-top with rings whose lines run down to the yard (shown in the lower fragment on the left). The fragments came from the north-east slope outside the Palace and are, therefore, without context but of relatively early date since they were no longer on the walls at the time of the destruction.

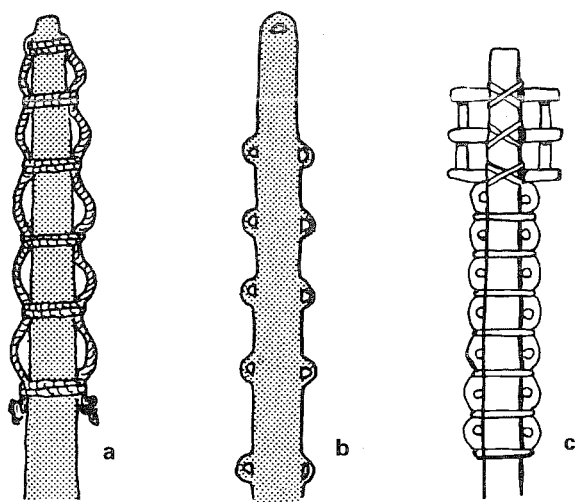
On Ship 1, and presumably also 2, the mast runs through a central awning. This format is rare in the small corpus of ship representations from the Aegean, but is a common feature of Egyptian ships of the 18th dynasty. It can be seen on the Viceregal ship from the Tomb of Huy in Fig. 95. From the Aegean, the Tiryns ship ring, reproduced in Fig. 68, displays the same combination of mast and awning as the two Theran ships. Furthermore, the ring shows an abbreviated version of the passengers seated facing one another beneath the awning, and even mast-top decoration and dress-ship lines at the side. The ring is usually dated to LH IIIa¹¹ but in the light of the Theran paintings perhaps an earlier date within the 15th century is indicated. Hutchinson comments on the Tiryns ring that the mast must be imagined as passing through the cabin down to the keel.¹² The Theran painter has shown just this, and on the sailing ship the mast even continues down through the hold as though the latter were transparent.

Clearly, as only three ships have their masts raised, the masts were retractable. There must therefore have been a division in the awning held together by ropes which could be undone to allow access for the mast. The division could have been either on the fore and aft line, thus allowing the mast to be raised or lowered without moving the awning, or athwart-ships, in which case the awning would have to be erected after the raising of the mast by a system of ropes pulling the material across the width of the ship.

Since the mast was retractable, it is likely to have had a device to hold it in place when erect and something on which to support it when lowered. Apparently lacking fore- and backstays, these ships in particular would have needed a strong base-support for the mast. The common device for such is a tabernacle or mast-foot. The structure can be seen in the 9th- or 8th-century Cypriot model in Pl. 164. A gap in the floor planking just above the keel is surrounded on three sides by a built-up wooden support; the mast would be raised into this, and along the fourth side (shown aft in the model) a wooden thwart would be wedged into position to hold it firm.¹³

It is usual for shipwrights to construct the mast-foot with the strongest support – i.e. the permanent part of the structure as opposed to the removable thwart – towards the fore. In this position it provided maximum support against the force of a following wind blowing against the mast from astern. The mast-foot on the Cypriot model in Pl. 164 adheres to this principle. With the removable thwart at the back, the mast would of necessity be lowered aft. Strong forestays are needed for such a manoeuvre (below, n. 30); but since neither fore- nor backstays are indicated in the painting the method of raising and lowering the mast is unstated. Nonetheless, the presence of the stern cabin and the arrangement of the helmsman and seated men adjacent to the cabin would have made lowering the mast aft a clumsy business. On Egyptian New Kingdom vessels part of this problem was solved by having a projecting wooden pin to support the mast on the port side of the rudder stanchion.¹⁴ But the Theran rudder has no such device and it may be that, at least on occasions when the stern cabin was in place, the mast was lowered to the fore. Under these circumstances the mast when erect would presumably have been held in place by tackle at the foot rather than by the construction of a tabernacle; but it would not, in this case, have been stable for long sea-going journeys.

A crutch at the fore of Ships 1 and 7 (seen best in Fig. 67) may be a stanchion for the support of the mast when lowered, as Marinatos suggests.¹⁵ Such a device could presumably have been placed fore or aft depending on the presence or absence of the stern cabin and on the duration of the journey and corresponding stability required for the construction supporting the mast when erect. A mast lowered onto (two) such fore stanchions can be seen on the ship represented in a Middle Kingdom tomb at El Bersheh in Fig. 94. Marinatos further suggests that at least one mast is to be seen resting on the stanchions of the awning¹⁶ (on Ship 4), interpreting the lines on some (though not all) of the awnings as woodings. These lines, however, are curved rather than straight and could indicate ropes holding the awning in place.



69. Mast-tops from Egyptian boats. (a) and (b) from Middle Kingdom models; (c) from an 18th dynasty relief of Hatshepsut's expedition, Temple of Deir el Bahari.

Sail and rigging

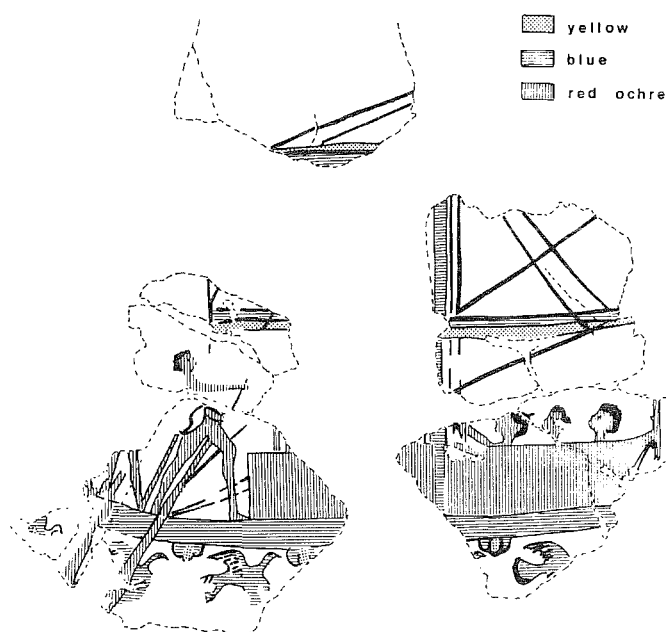
The painter of *The Ship Procession* was apparently familiar with nautical details, for the rigging of the sailing ship is comprehensible and clear. Fig. 71 is a reconstruction of the rigging, with the lines as identified below. To avoid the (not uncommon) danger of argument based on details visible only in the modern reconstruction,¹⁷ a drawing of the sailing ship without restoration is provided in Fig. 70.

All sailing ships of the Bronze Age carried a square-rigged sail which would have lain athwartships basically catching the wind astern.¹⁸ The conventions of ancient art necessitate that the sail should face the spectator (since the side view would have obliterated the structure beyond recognition), and it is therefore drawn on a fore-and-aft line.¹⁹

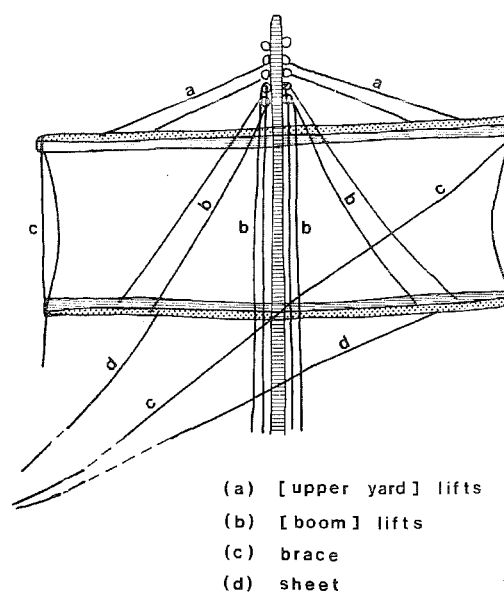
The sail is white (like the sea at this point) and the yards are blue (like the mast). A strip of yellow above the upper and below the lower yard may be intended to show the edges of the sail brought round over the yards. There is no indication of the lashings which must have existed to secure sail to yards. During the Classical period sails were of linen or occasionally papyrus fibre or rush;²⁰ Marinatos assumed that Bronze Age sails would also have been of linen.²¹ The sail would undoubtedly have been made up of joined strips of cloth as no loom is likely to have accommodated the total width. Such joined cloths can be exceptionally strong. The cables might have been of hide or papyrus,²² though the numerous aquatic grasses growing along the shore of the Departure Town suggest a more easily accessible material for rope.²³

Both an upper and a lower yard (the boom) are shown supporting the sail. The use of a boom in the Aegean has been suggested on the basis of ships on Minoan seal-stones²⁴ and the painting now confirms this observation. It can be seen on the MM seal from Platanos in Pl. 163, and the LM I seals in Figs. 72 and 73. It was also in use in Egypt, and can be seen in sails in the 18th dynasty representations in Figs. 74 and 75 (Syrian ships). Fig. 95 shows that when furling the sail the practice was to bring the upper yard down to the lower, which was stationary. The use of the boom appears to have been restricted to the Bronze Age and its disappearance is marked by the ships on the Medinet Habu reliefs, in which the ships of both the Egyptians and the Peoples of the Sea have their sails furled up and the lower yard discarded (Fig. 84). Egyptian sails were generally wider than they were high, which necessitated that the spars were lashed together at the centre (visible in Fig. 74), a convention which applied also to the Greek and Roman world.²⁵ The Theran sail also appears to have been wider than it was high and probably required the same technique.

The sailors use only working, or running, rigging for the purpose of the voyage shown in the painting: lifts to raise and lower the sail, braces to adjust the yards and possibly sheets to trim and let out the sail (Fig. 71). Two lifts, at either side of the mast, support the upper yard; two more lifts²⁶ run vertically up the mast on either side and, having passed through the eyes at the top (which have not been preserved), run down obliquely across the sail and are attached to the boom. The sailor closest to the mast on the right is either pulling or letting out the lifts in



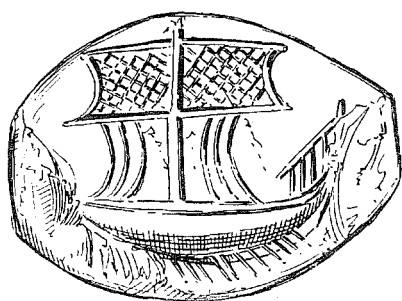
70. The sailing ship without restoration.



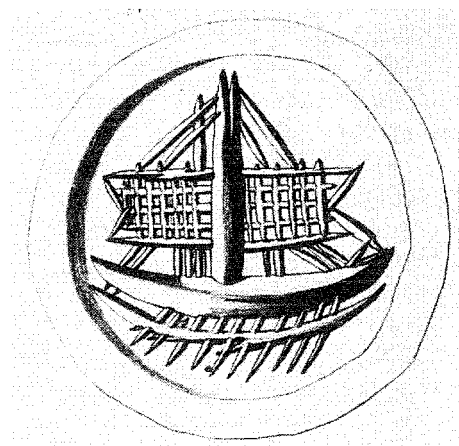
71. The rigging of the sailing ship.

order to furl or raise the sail (Fig. 70). The other lifts were presumably being handled in the same way by a sailor on the left in the area which has not been preserved.²⁷ In reality, the sailors would have been to port and starboard of the mast rather than fore and aft; the placing belongs to the same convention as that of turning the sail to face the spectator. Running from the upper yards are the braces, and from the lower the sheets (or lower braces, the function is uncertain). Marinatos assumed that both these ropes are held in place by the helmsmen who, having their hands occupied with the steering oars, hold the ropes beneath their feet.²⁸ However, on New Kingdom vessels, halyards were secured to a horizontal bollard fixed to the deck in front of the steersman;²⁹ and it may be that a simi-

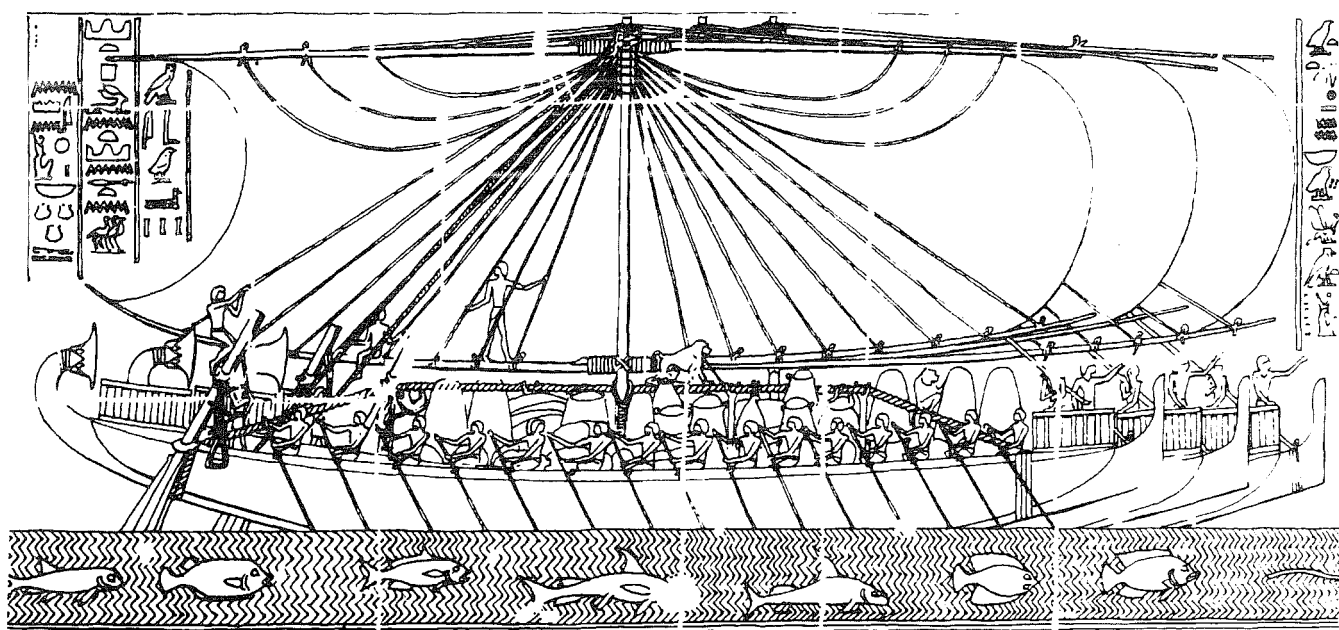
lar structure was used for the attachment of sheets and braces on the Thera ship. The artist appears to have abbreviated the number of lines hanging down beside the mast. Since, on either side, there are two lifts for the upper yard and two for the lower, there should be four ropes altogether running down each side of the mast. For without handling ends it would not be possible to lower the upper yard without removing the topping lifts. Ship 1, with mast erect and ropes loose, shows the same type of rig when the sail and yards have been lowered; there are



72. Amygdaloid bead-seal from Knossos, LM I (?).



73. Cornelian lentoid sealstone, LM Ib.



74. Ships from Hatshepsut's expedition to Punt, detail of 18th dynasty relief at Deir el Bahari, early 15th c.

clearly four ropes on the left side, though only three have been drawn on the right (Fig. 67).

A notable point about the sailing ship is that it has no standing rigging, in other words no forestays or backstays to stabilize the mast.³⁰ The mast is unlikely to have been permanently fixed to the keel in this one case, and a lack of stability provided by stays indicates that protection against strong winds during long sea journeys was unnecessary. The conclusion must be that the voyage represented was merely of short duration.

Steering

All but the small boats are steered by an over-sized quarter rudder on the starboard side; the ship under sail, however, has two rather than the usual one. The helmsman (contrary to Egyptian practice) stands in front of the stern cabin rather than behind it. The placing of the stern cabin would have restricted both the posture and vision of the helmsman had he stood behind in this case. Presumably he looked along the side of the ship, for the awning blocks his view down the middle.

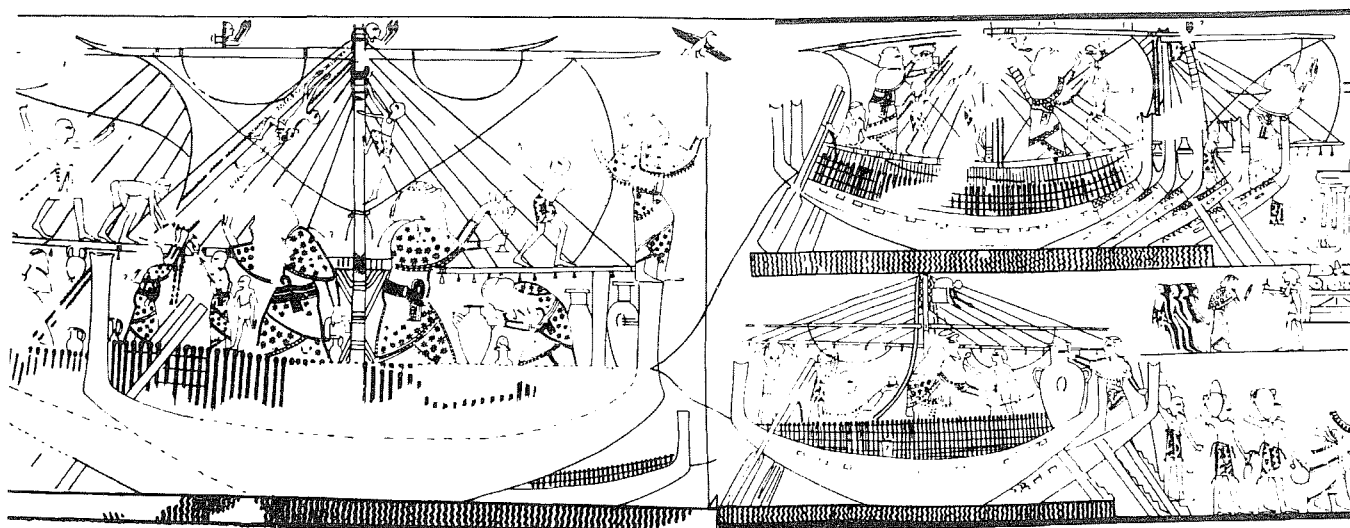
The massiveness and oar-like shape of the rudder is characteristic of the period and contrasts with the shorter blunt blade of Late Bronze III (as in Fig. 88).³¹ The helmsman on each ship holds the steering oar with both hands at two heights along the loom; his stance is carefully balanced with feet spread apart on the poop deck. The artist has accurately observed the necessary balance for steering with a long oar which has no tiller.³² Although the oar appears to be free-standing it is unlikely that it

was completely unattached to the hull; a loop or thole pin would still allow the oar to be lifted when the windward side changed.

It is uncertain when the use of two steering oars, one on each quarter, was first adopted in the Aegean.³³ Representations of ships with rudders from the latest period of the Bronze Age show only one projecting aft (Fig. 88 and cf. n. 31); and a single rudder is clearly indicated on an EC sherd from Phylakopi.³⁴ On Aegean seals it is hard to distinguish the rudder from the oars, though Fig. 68 appears to have only one, whereas Fig. 79 clearly has two (depicted no larger than the ordinary oars but differentiated by the angle). This observation confirms the situation in the painting: that both the single quarter rudder and the double were in use at the same time.

The two steering oars on the ship under sail may not in reality have been both on the starboard side. The convention of showing the square-rigged sail in a fore-and-aft line has created a nautical anomaly: the rigging in relation to the sail creates the impression that the wind is blowing from the starboard side, yet if this were so the rudder would be needed on the leeward side, away from the wind, not on the starboard side as shown. Evidently the artist wished the spectator to be quite clear both about the form of rigging and about the number of rudders and therefore placed everything on the viewer's side.

Clowes, in discussing a ship on an Attic black-figure cup comments: 'In a sailing ship of this type, two steering-oars remained very much more necessary than in a galley, for as the vessel heeled over under the influence



75. Syrian merchant ships at an Egyptian harbour, from a painting from the Tomb of Kenamun, 15th–14th c. (reign of Amenophis III ?).

of the wind, the windward oar must have lifted so far out of the water as to retain little steering power . . . it was, therefore, on the leeward oar that the steersman had to rely.³⁵ The principle is instructive and might explain why only the sailing ship (and not those propelled by oar and paddle) is equipped with two steering oars.

Propulsion by oar and paddle

Amongst the many vessels in the paintings the only one propelled by oars is the boat by the Departure Town (Pl. 159). The rowers face the stern, one behind the other, with an arm's length between each. The crew of five may, as Casson suggests,³⁶ be an abbreviation for ten – i.e. two abreast – but there is no indication of overlapping figures, a technique with which the Thera artists were well acquainted.³⁷ If (as seems more likely) the line of five represents the entire crew, then the boat must be relatively narrow and the rowers must be either working alternately, port, starboard, port, or with each man holding two oars, one to port and one to starboard, in the method known as sculling. They sit, presumably on thwarts, with backs arched for the beginning of the stroke. The method is familiar to modern seamen and appears from representations to have been used by rowers both in Classical Greece and in the Near East during the Assyrian period, though it is contrary to that used in Egypt during the Bronze Age.³⁸ Presumably the oars were fastened to the gunwale though no thole-pins are evident.³⁹

The shipwrecked vessels on the North Wall appear to have been rowed at an earlier stage in the drama: five oars dangle over the side of the upper ship (Pl. 3), three directed aft, two fore, abandoned in the turmoil.⁴⁰

In spite of the fact that rowing is efficiently demonstrated by the men in the boat, the crew of the large ships make hard work of their journey by paddling their vessels (Fig. 77). They are cramped together leaning in an attitude of discomfort over the gunwale in their effort to reach the water with oars which are too short for the freeboard of the hull.

The type of craft for which these short paddles would be suitable is the small boat, paddled by two men, approaching the Arrival Harbour (Pl. 160). These men paddle in the conventional manner, leaning forward slightly and with ease, arms outstretched in front. It is the same position as that held by the figure in the small vessel on the Aya Triada sealing in Fig. 76, and was the method used by sailors in Egypt and the Near East during the 3rd millennium.⁴¹

Paddling would, however, have been an old-fashioned method of propulsion at the time of the Thera painting. Furthermore, while one might expect to see a small canoe using the technique within a harbour, one would not

expect to see it used for massive sea-going ships. Marinatos considered that paddling these ships was a necessity owing to their being in shallow waters.⁴² But Casson's criticism of this – that the smaller boat is having no trouble rowing in the same waters – is pertinent.⁴³ Even for harbour manoeuvres the style of paddling adopted here is unnatural. With inappropriately short paddles, the men are forced into an idiosyncratic posture. They are surely not kneeling; for in order to get sufficient thrust into the water they would have had to have raised the paddles and themselves high before the downward movement. This is just what we see in a unique depiction of progressive motion from the 5th dynasty Weserkaf Temple at Saqqara illustrated in Fig. 78. In the centre of the line of men it can be seen that the downward thrust entails a plunge over the gunwale; the resulting position is the same as that held by the Thera sailors. The technical reason is the same in the two cases: the ship was otherwise too large to be paddled.⁴⁴

The enormous effort involved in paddling these huge vessels indicates an important factor, already observed in relation to the lack of standing rigging on the sailing ship: these vessels are not prepared for a long sea-going voyage. They travel between the Departure and the Arrival Towns and considering the discomfort and expended energy of the paddling crew, we must assume that the distance between the two points was not very great.

In considering the reason for propelling these ships in so impractical a manner, it is worth noting that at the time of the Thera painting the occasional use of paddling ships in Egypt was restricted solely to those in processions belonging to specific annual festivals (below, Ch. 10, n. 17). The out-moded technique thereby recalled ancient traditions. It seems likely (as Casson also concludes)⁴⁵ that in *The Ship Procession* a similar deference to tradition is being displayed, for, as the details of the ships reveal, this is a naval occasion of more than ordinary significance.

The hull

Construction

(i) Scale

In estimating the size of ancient ships the usual method is to define the overall length of the hull by its ratio to the number of oarsmen, 1.50 m (or 0.90 m) being judged for each interscalmia (the space between two rowers).⁴⁶ Thus Marinatos estimated 21 m total length for the 15-oared Middle Minoan ships on seals (14 spaces at 0.90 m each plus 4 m from the end of the oars to each extremity), and a maximum of 30 m for the larger Late Minoan vessels.⁴⁷ However, the number of oars on Minoan seals is variable

and such estimates can only be approximate.⁴⁸ The large number of working crew on the Theran ships is explicable in terms of paddling as opposed to rowing: more paddlers being able to fit into a given space than rowers.⁴⁹ The rowed boat is approximately half the length of the hull of the ships (not counting the prow attachments) yet has only a quarter of the number of crew.

Marinatos used the above-mentioned principle in estimating the overall length of the Theran ships. His calculation is based on 20 interscalmia at approximately 0.75 m each, less than the usual 0.90 m because the men are paddling rather than rowing and therefore more closely spaced. For the rowing area the number reached was 15 m, and on Ship 1 (the best preserved) the oarless part of the bow was judged at around half the rowing area (7.5 m) and the stern at around three-quarters of the rowing area (11.25 m), bringing the final estimate of the total length to 33.75 m.⁵⁰

This estimate is based on one factor: the number of paddles on the only well-preserved ship, Ship 1 (Fig. 67). Thus Marinatos counted 21 on the visible side (42 paddlers altogether). But a close look at the painting reveals that numerical exactitude was not a characteristic of the artist. Certainly there are 21 paddles, but only 20 pairs of arms reach for them and only about 17 heads are attached to these arms (accurately observed by Iliakis in his drawing reproduced in Fig. 67). Furthermore, while the number of paddles on the remaining ships is uncertain, Ship 7 evidently has more than 21 and Ship 3 has less. The artist has provided an impression of a large number of oars rather than a precise designation or a formulaic mode.

The question of scale is further complicated by the fact that the rowed boat (Pls. 8, 159) is of the same type as the two moored boats in the Arrival Harbour (Pl. 13) – with skeletal midships awning and amorphous structure aft in which the captain sits – yet they are depicted in different

scale. Such inconsistency is applied also to people (see especially p. 109) and means that comparative methods of judging scale are unreliable. Neither can the scale of the shipwrecked vessels be determined; they appear to be smaller than those in the procession, but their true length even within the painting is unknown as the fragments of fore and aft do not join.

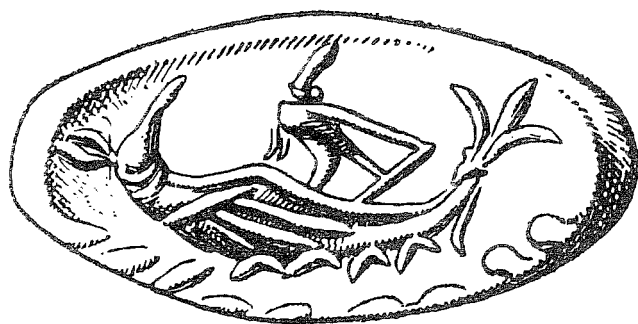
The beam of the ships cannot be reliably estimated but may have been in the region of one-third of the basic hull length.⁵¹ Neither can the ratio of depth to length be established with any certainty.⁵² Clearly the artist has depicted the entire hull, with its curved bottom, rather than the hull as it would appear above water-level. This principle applies also to dolphins, steering oars and paddles and, in the Shipwreck scene, to drowning men, shields and boat-hook.⁵³ Objects are depicted as though resting on the water, rather than partially submerged within it.

(ii) Structure

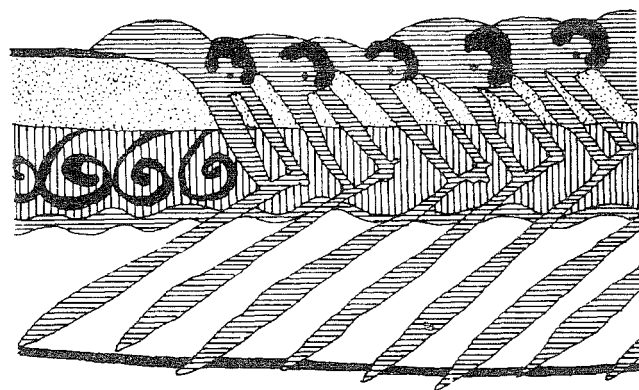
The structural form of the hull cannot be determined from the paintings alone. The most that can be established is the information available from ancient wrecks and from literary sources – both of which, pertaining to a later period, may only be used cautiously as demonstrating the Mediterranean traditions of shipbuilding – and comparative iconography where there is a sharper focus on detail.

The main questions relating to ship construction are: (a) what is the material used for the hull? (b) how are the structural elements joined? (c) how is the hull strengthened and are there keel and ribs? (d) is the ship decked?

(a) The Aegean lands were once densely wooded and are surrounded by navigable seas. The ships in the painting are unquestionably sea-going vessels and as such must have been plank-built. It is usually thought that cypress and fir were the commonly used woods in Minoan architecture,⁵⁴ and Marinatos comments that



76. Sealing from Ayia Triada.



77. The paddlers on the Theran ships. (After K. Iliakis.)

judging from the terminology in Homeric literature the same applied to naval architecture.⁵⁵

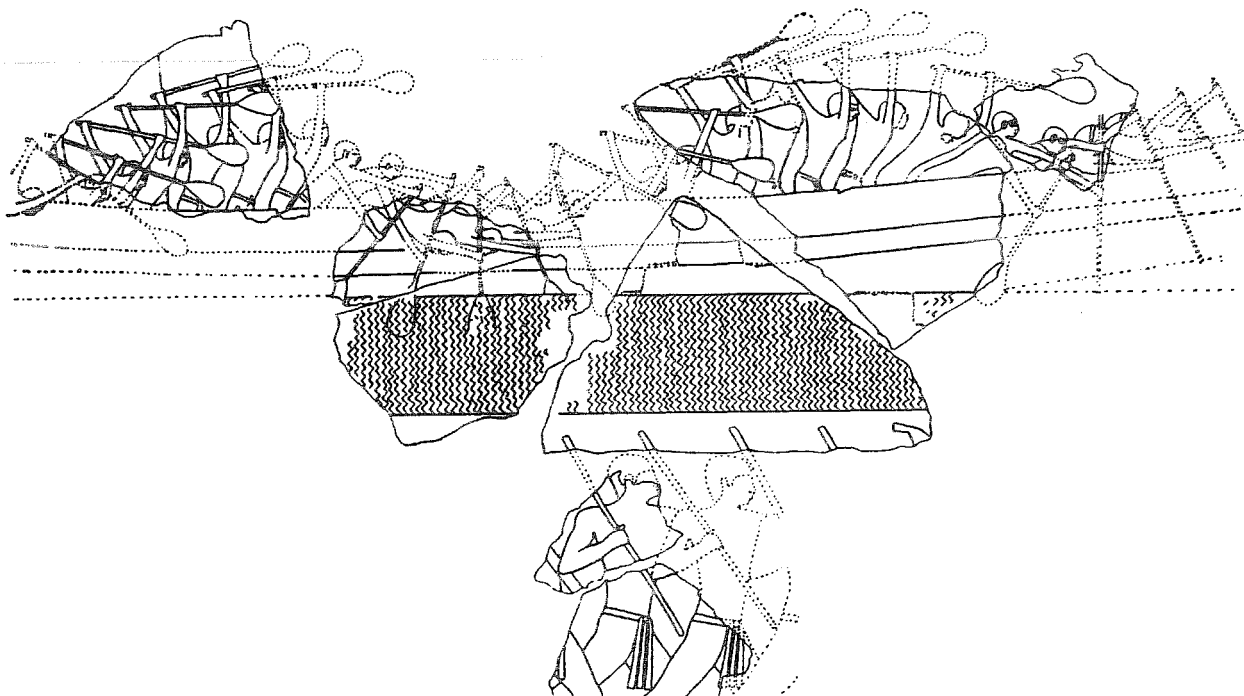
(b) There are basically two methods of joining the planks of a hull: the planks may overlap one another, in the clinker build; or they may be laid edge-to-edge, carvel fashion. The clinker build is a specifically northern European form of construction and has never been demonstrated to have been used as far south as the Aegean. On the other hand 'It has always been known, from representations, that Mediterranean ships of all periods were carvel built; this has been confirmed by excavations.'⁵⁶ Egyptian plank-built ships were also constructed in edge-to-edge fashion, though the short planks 'laid like bricks', as Herodotus so aptly put it,⁵⁷ was a form peculiar to that region.

The Linear B texts indicate that ship construction in the Mycenaean age was a separate trade.⁵⁸ Nonetheless, it would undoubtedly have been based on the carpenter's knowledge of wood craftsmanship. It has been demonstrated that, in Minoan architecture, carpenters and masons used the techniques of mortise and tenon and dove-tail clamps;⁵⁹ and almost certainly these would have been passed on to shipwrights. Such techniques were used in Egyptian shipbuilding; and recent evidence from underwater archaeology in the Mediterranean demonstrates that the tradition of mortise and tenon

joinery was established among shipwrights at least from the end of the Bronze Age.⁶⁰

(c) A sea-going ship must be strengthened longitudinally in order to avoid 'the danger of a long narrow vessel breaking her back when raised on the crest of a wave with her two ends left unsupported in the air'.⁶¹ The conventional method of providing the necessary rigidity internally is with keel and ribs. Externally the usual method is a wale: an additional strengthening plank (strake) running along the hull from stern to bow usually just below the gunwale. The keelless vessels in Egypt utilized an alternative method consisting of a hogging truss running along the centre of the ship and bound around the hull at either end (as in Fig. 74); but it is clear that the Theran ships had no such device.

Certainly the Theran ships would have had a central plank but it is a matter of conjecture whether or not this could be classified as a keel. Some ships on Minoan seals appear to have an additional structure at the base of the hull which might be an indication of a keel plank (Fig. 73). Mycenaean representations show a projection fore (a projection too small to be a separate, attached ram) in a line running straight from the base of the hull and therefore presumably indicating an extension of the keel (Fig. 88; cf. n. 31). The keel is referred to several times in the Homeric epics.⁶²



78. Detail of paddlers from a 5th dynasty relief, Weserkaf Temple, Saqqara.

It is likely that the Theran ships were fitted with at least some internal frames or ribs, though of course they are not visible in the painting. The lines on the hull on the Cretan seal in Fig. 79 have sometimes been interpreted as ribs, though Fig. 80 offers a more convincing example. Lines are also shown on the boat on the East Cretan seal in Fig. 99; on the incised ship from Boeotia in Pl. 165; and on a Mycenaean ship model from Phylakopi.⁶³

Ribs may be attached to the keel before the addition of the hull strakes, thus determining the overall shape of the hull – the skeleton technique – or they may be inserted after the construction of the hull – the shell technique. Intermediate methods are also known in which some frames are pre-erected and some are inserted. Recent studies indicate that, contrary to previous belief, the skeleton technique is a relatively late development in the history of shipbuilding, and the likelihood is that ancient ships were built on the shell principle of inserted frames.⁶⁴

It may be that the ships in the Theran painting were strengthened externally as well. In Egypt during the Old Kingdom a truss girdle extended horizontally around the hull, and it has been suggested that a memory of this structural feature was preserved in later ships in the decorated strake below the gunwale.⁶⁵ On the Theran ships the same area is picked out by a different colour and on two ships spiral decoration is added. At the stern the ropes running obliquely up the hull (which attach the stern projection) reach only to the top of this decorated strip, making clear a division between it and the gunwale. Thus the strip may be a functional wale as well as an area of decoration. Such longitudinal strengthening of the hull was necessary even on ships with keel and ribs; Greek Classical warships had several timber wales binding the hull and preventing bow and stern from sagging; and similar wales were applied to ships in the Middle Ages.⁶⁶

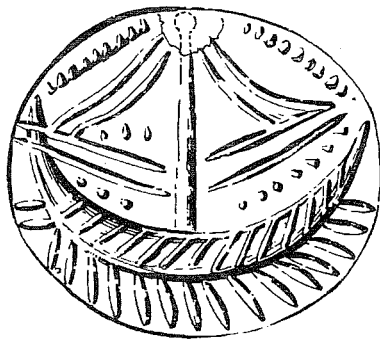
(d) It is clear that the Theran ships were at least partly

decked. The passengers beneath the central awning are shown seated with their knees visible; they could not be sitting on thwarts at the same level as the paddling crew and must, therefore, be on a decked area. A poop deck supports the stern cabin and extends into the central deck; in front of the cabin, the helmsman (whose feet on the sailing ship are so high they appear flush with the gunwale) and the seated men are clearly on the same level as the central passengers. The shipwrecked vessels were probably also decked: on one a man stands in a lookout-post towards the prow, on another a small structure is mounted aft (Pl. 3). The probability is that the large ships were decked along the centre and at stern and bow but that the port and starboard sides had simple thwarts on which the rowers could sit or (in the case of the occasion shown) between which the paddlers could stand. The boats are unlikely to have been decked, with the exception of the stern area on the larger boats.

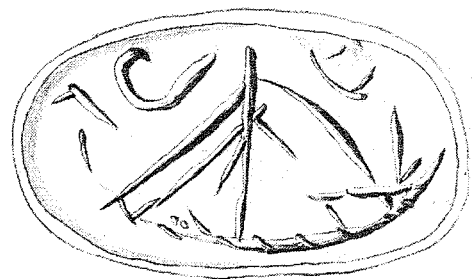
There is little comparable evidence for the use of a deck in the Aegean Bronze Age and that which exists belongs only to the later period.⁶⁷ Two LM II sealings from Knossos show decked vessels.⁶⁸ The ship on the LH IIIb krater from Enkomi in Fig. 81 indicates that passengers and crew are on two levels, as in the Theran painting, and therefore that the centre is decked.

Decoration

In carvel construction it is essential to caulk the seams between the strakes with a soft material (such as oakum, rags, moss, fibre, tow, etc.) in order to make them watertight.⁶⁹ A coating of pitch or asphalt was applied to the finished hulls of ancient ships, fixing this caulking.⁷⁰ The instructions to Noah on the building of his ark clearly state that he 'shalt pitch it within and without with pitch' and, when faced with an impending flood and preparing to build a boat, it is the first thing that Gilgamesh gathers around him.⁷¹ It has been suggested that the epithet



79. Steatite lentoid sealstone, LM I (?).



80. Serpentine three-sided prism seal, MM IIa.

'black' frequently applied to ships in the Homeric epics is most likely a reference to the use of pitch.⁷² As an alternative to pitch, in the Classical period at least, wax was melted until it could be applied with a brush, and paint was frequently added providing a coat of colour in encaustic for the hull. This encaustic was often used to paint elaborate designs along the sides of the hull, with special emphasis on the stern.⁷³ However, it is said that the earliest Greek ships kept the hull black, with colour added only to the prow.⁷⁴ Egyptian ships during the New Kingdom were richly decorated on deck-houses, bow and stern platforms and steering oars, as well as on the hulls which were given a form of plaster onto which patterns and scenes were painted (Fig. 95). Such decoration was applied in particular to ships used for ceremonial occasions.⁷⁵

We should, therefore, be cautious in considering it a flight of the artist's imagination when we find spirals, lions, dolphins and birds gliding along the surfaces of the hulls of the Theran ships. These were presumably not common decorations – the shipwrecked vessels are unadorned and the small boats are clearly of plain wood – but ones which were justified by the festive occasion depicted in *The Procession* painting.

The motifs of lion, dolphin and bird were each considered in Ch. 3, and the stylized crocus blooms on the hull of the sailing ship and those comprising the pendants of the dress-ship lines on Ship 2 in Ch. 2. Crocuses, it was suggested, may evoke the product saffron and its importance in overseas trade. Birds (both on hull and prow) may reflect navigational powers. Dolphins (also on hull and prow) emphasize marine associations. Lions (on hull and stern) evoke the power of the conqueror and may have been thought to infuse the vessels with power against the waves and to inspire the warrior passengers with valour.

Ship 2, the flagship, is picked out for special attention. The dress-ship lines and mast-top emblem are unique to this one vessel, as is the elaboration of hull decoration. A

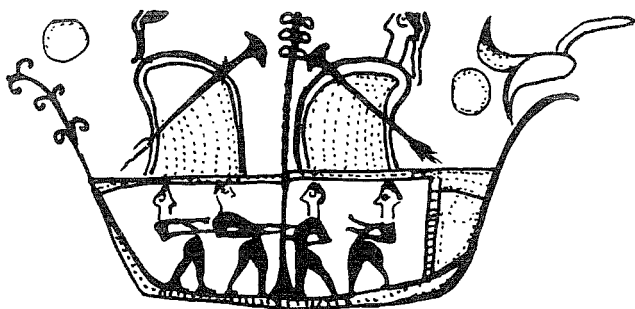
notable accent of blue is incorporated into the design: the base of the stern cabin, the top of the stern projection, and the awning are all distinguished from the same features on the other ships by their blue colour; a blue cloth is attached to the steering oar;⁷⁶ and on the hull, just fore of midships, is an area of blue bordered by narrow vertical strips of yellow outlined in red. Within this carefully defined area of blue is a further hull emblem, quite different from any of the others but reiterating the most commonly rendered prow emblem: a yellow star (Pl. 169).

The prow

As is traditional among nautical people, particularly on festive occasions, the prow and stern have been emphasized with decorative emblems. Only the large ships in procession have been so adorned – the extremities of both the shipwrecked vessels and the small boats are relatively plain – and it must be assumed that the emblems and fixtures have been added for the occasion of the nautical procession.

The long fragile bowsprit is clearly an extension to the basic hull design rather than an integral part, and must be detachable.⁷⁷ It is impractical for a long sea voyage and would easily break in a high wind; here its function is to carry the important motifs belonging to the individual ships. A high prow is a feature of many Early Cycladic and Minoan ship representations, and while the elaboration of adornment visible in the Theran painting is not applied elsewhere, the types of prow known from comparable examples can all be identified within the bowsprit components of the Theran ships. Three basic varieties can be distinguished: (1) a plain undecorated high prow as seen on an EM II clay model from Palaikastro,⁷⁸ on a lead model from Naxos,⁷⁹ and on a boat incised on an EH pot handle from Orchomenos;⁸⁰ (2) the addition of a fish and below it a flag, seen on Early Cycladic representations incised on the so-called 'frying-pans' (Fig. 87);⁸¹ (3) a bifid division or two bent pieces either side of the bowsprit, frequently seen on ships on Minoan sealstones (Figs. 80, 82–3, 87). All these characteristics can be found in the Theran paintings: the plain undecorated high prow can be seen on the rowed boat and the small fishing boats in the harbour; the fish decorates one of the large ships; and the flat and divided bowsprit are clearly visible on the shipwrecked vessels. To these basic types are added features peculiar to the ships in procession.

On each of the preserved bowsprits is a star (or rosette), in some cases with dots in between the outer points (Pls. 168, 172). Regardless of other emblems, this one is consistently applied; and it also decorates the hull

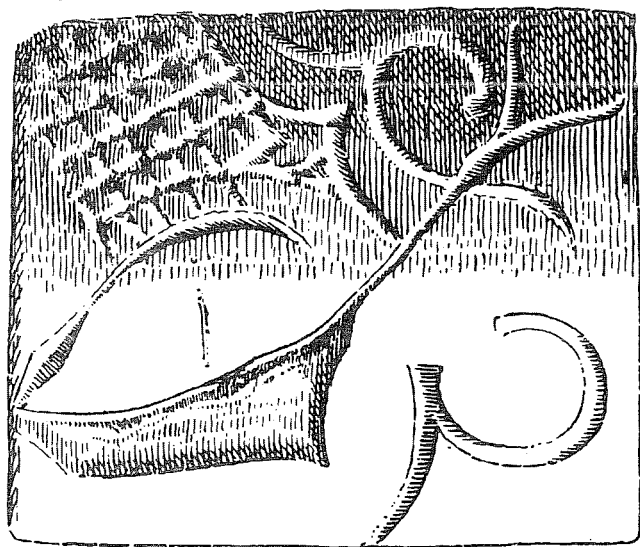


81. Ship on a Levantine-Mycenaean IIIb krater from Enkomi.

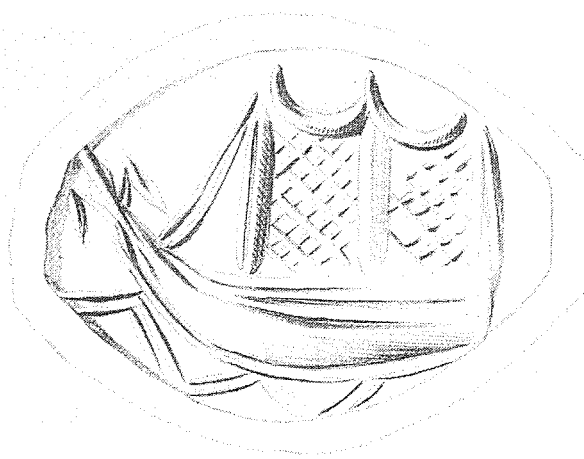
on the flagship (Pl. 169). This motif is a familiar element of LM Ib Marine Style pottery, an example of which is shown in the Palaikastro rhyton in Fig. 18.⁸² Equally the motif of festoon and crocus pendants which forms the dress-ship lines of Ship 2 is applied to the Marine Style amphora from Tyllissos in Fig. 16. The association of these motifs with marine elements in the pottery takes on a new significance in the light of The Ship Procession painting. Apparently first applied to ships as emblems during the LM Ia period (according to present evidence), the motifs were then associated with a marine environment on the pottery of the immediately following period, as though evoking the nautical emblems of a sea-faring people. The star with dots between its outer points occurs in a fresco fragment from the 13th Magazine at Knossos.⁸³ Evans dated it to MM III, commenting that in scale it approaches the miniature class. Warren, however, points out that the associated pottery included LM IIIa sherds.⁸⁴ The fragment was interpreted by Evans as 'the lower part of the front of a Minoan shrine, beneath its central columnar opening'. It is uncertain however, whether his interpretation is based merely on comparisons with other architectural features or whether it is based more conclusively on associated fragments. The star is poorly preserved but is reconstructed on the basis of the spaces between the surviving points as having a total of sixteen points, in between each of which is a row of four dots. In the Theran painting the motifs have between fourteen and sixteen points; to judge from what is preserved, and either one or no dots between each. On the Palaikastro rhyton in Fig. 18 sixteen points are again

evident and one dot lies between each. Thus the number is fairly constant. A further example of this motif exists in a fresco fragment from Pylos (Pl. 167). Like the motif on the hull of the Theran flagship, the star is here picked out in an area of contrasting colour bordered by vertical stripes. Probably fourteen to sixteen points existed and one dot stands between each. Spirals run in a horizontal strip adjacent to the star. The fragment measured 4 cm from top to bottom and although not fully preserved this may approximate to the entire horizontal strip which is represented. In the Theran painting, the hull area in which the star is painted is approximately 4 cm high; spirals, though not associated directly with this motif, are painted on the hulls of Ships 1 and 3 at either side of the flagship. The Pylos fragment has no context, for it was found outside the Palace on the north-west slope. The fragments of mast and rigging of a ship illustrated in Pl. 166 were found on the north-east slope. The vertical measurement of the four mast rings is in the region of 3.5 cm. The vertical measurement of the five mast rings on Ship 1 in the Theran painting is just a fraction more. Thus, both the relationship of the measurements of hull design to mast-tops within the individual paintings and the relative measurements between the paintings are almost identical. The star and spiral motif from Pylos, like that from Thera, may well have been applied to the hull of a ship: perhaps that to which the mast-top and rigging in Pl. 166 belonged.

Alongside the star emblem each prow is adorned with a further motif. A butterfly is attached to Ship 1 (Pl. 170); two butterflies with scalloped edges are placed on either side of the star on Ship 2 (Pl. 168)⁸⁵ and the emblem is reiterated in the mast-top decoration on the same ship



82. Flattened cylinder seal from near Knossos, MM III (?).



83. Cornelian glandular-shaped sealstone from Crete, LM II.

(Pl. 171); Ship 3 has three dolphins (Pl. 90); and Ship 4 a bird (Pl. 96). The prows of Ships 5 and 6 are not preserved and the emblem of Ship 7 is amorphous and unclear (Pl. 172).⁸⁶

The individual emblems (as opposed to the universally applied star emblem) are all animal. Dolphins epitomize the marine environment of the ships; the bird (as discussed in Ch. 3) may have evoked navigational powers. Dolphins, birds and butterflies are together images of swift movement through sea and air and thus appropriate as emblems of transport.

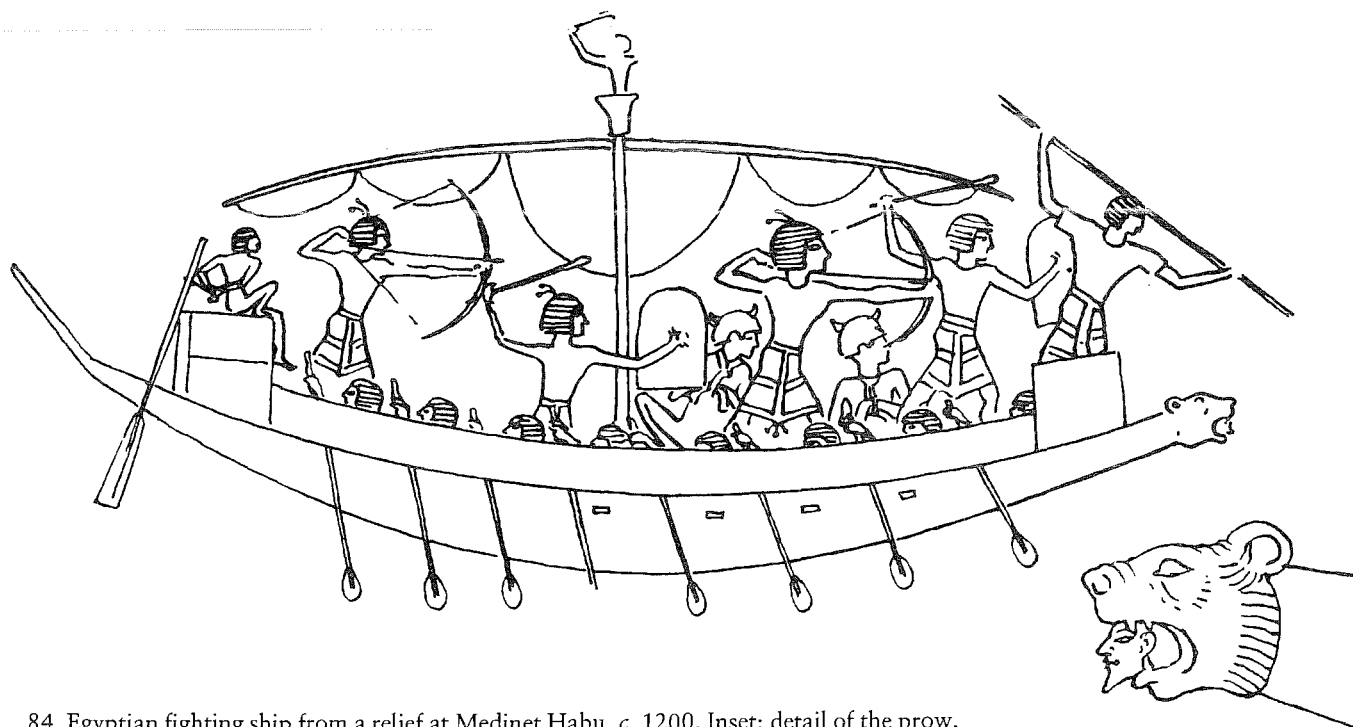
The eyed butterfly was a common motif on Crete at this time and also occurs in the art of the Shaft Graves at Mycenae.⁸⁷ Butterfly wings appear on the Zakros and Ayia Triada sealings and a naturalistic butterfly in ivory was found in the Treasury of the Shrine in the Palace of Zakros.⁸⁸ The creature occurs also at Knossos, in glyptic art, in the Priest King relief (as restored), and on an axe from Phaistos.⁸⁹ From Mycenae, a butterfly is engraved on a sword from Shaft Grave I, Circle B, and on scale discs from Shaft Grave III; it is also among the motifs of the gold cut-outs from Grave III.⁹⁰ The image is extended to a few mainland seals.⁹¹

The appearance of the insect as a ship's emblem is unique to the Theran painting. It is uncertain whether here the butterfly image had religious associations (as postulated in general by Evans).⁹² As an image it

encapsulates a sense of motion and is thus applicable to the prow which leads the way.

Detachable bowsprits with emblems – frequently of vegetation or the head of an animal – were in common usage in the ancient world (as in Figs. 81, 84, 86, 88, 96) and indeed in many other cultures in which ships play an important role. New Kingdom vessels in Egypt incorporated religious imagery among the prow decoration (as in Fig. 95). The eye of Horus was painted on the bows, a motif which developed into the virtually universal image of the oculus. Streamers were hung from the bows of ceremonial ships, which also carried coloured sails with tassels hanging from the boom and a cloth over the stern.⁹³ In Classical Greece an identifying or naming emblem was used for the bow, and the stern decoration was sometimes related to it in theme.⁹⁴

It was noted that on the Theran ships each bowsprit carries a particular animal, insect or bird motif, while every ship (regardless of other emblems) carries a star emblem. The butterfly is applied only to Ships 1 and 2 (one on 1, two on the prow of 2 and two more on the mast-top). The star emblem, reiterated on every prow, is emphasized on the hull of Ship 2. Ships 1 and 2 are the most important of the fleet (pp. 121–2 and n. 4), 2 being of highest status. It thus appears that the butterfly motif was of greater esteem than the other individual motifs. It may be that the butterfly, bird and dolphin emblems were



84. Egyptian fighting ship from a relief at Medinet Habu, c. 1200. Inset: detail of the prow.

of individual significance for each ship (perhaps akin to a name device though not as specific since two ships carry the same). The star, on the other hand, is the one unifying emblem and may have acted as an insignia for the fleet; this would explain why the most important ship of the company carries the emblem on its hull as well as on its prow.

Clearly the bowsprits with their attachments were highly valued additions to these ships. The shipwrecked vessels have none of the emblems of the ships in procession. Nonetheless, they still retain the impractically elongated bowsprit with two leaf-like features (perhaps bark or split reeds) which on the processing ships carry the emblems. These features resemble the bifurcations on ships on Minoan seals; and streamers attached to the bowsprit echo those on Early Cycladic ships. On the lower of the shipwrecked vessels the bowsprit has bent or snapped. The image, amidst the turmoil of the wreck, calls to mind the significance of prow and stern emblems on later Greek ships 'which served, like a modern flag, to identify the ship's origin, and the loss of which was a mark of defeat or dishonour'.⁹⁵ The Clashing Rocks tore off the mascot on the stern of the Argo; and the angry voice of Zeus threatened the Argonauts with tempestuous seas from a talking beam located in the stem.⁹⁶ In the *Iliad*, Hector, standing on the shore, grasped the stern ensign as he shouted triumphantly to the Trojans (albeit erroneously) that the ships were taken.⁹⁷

The stern

Three features have been added to the sterns of the large ships in honour of the importance of their role and the occasion (they are not added to the small harbour boats or to the shipwrecked vessels). The features are: a stern figurehead, a projection just above the waterline, a stern cabin (Pls. 173–7).

The figureheads are consistently animal: on Ships 1 and 2 a lion, on Ships 3, 5 and 7 a dappled creature plausibly interpreted by Hood and Immerwahr as a griffin.⁹⁸ The stern of the sailing ship, 6, is not preserved. Only fragments of the stern of Ship 4 are preserved; the figurehead is reconstructed as that of a lion, but not verifiably. Ships 1 and 2, which have been shown to be the most important of the fleet and the only ships with butterfly prows, both have lion sterns. On the flagship, 2, the prow and stern motifs are reiterated: the butterfly on the mast-top, the star on the hull, and the lion also on the hull. It appears that the lion figurehead, being applied only to the more significant ships, may have had greater esteem than that of the 'griffin'. If the figurehead of Ship 4 was also a lion, as reconstructed, then the grouping would be that of lion-sterns in the rear of the procession, 'griffin'-sterns

towards the front. Lion and butterfly motifs are applied to the same ships; the emblems are therefore specific rather than random and associations are established between prow and stern.

Figureheads are most likely to have been of carved wood but the way in which the artist has shown the lion on Ship 2 as resting *on* the stern-post but floating *above* the gunwale suggests a light material, namely a skin. Presumably this is not to be interpreted literally but is rather an expression of an idea. The significance of the lion and griffin both as hunters and in association with warriors and warfare has been discussed above (Ch. 3), and particular attention drawn to the metaphoric imagery, common in the ancient world, of the power of the lion over impending danger associated with seafaring (be it waves, storms or human action).

The animal figureheads recall the widespread convention of placing crania or horns on the ends of ships in order to infuse the vessels with power. Skins were occasionally draped over the rudders of New Kingdom ceremonial vessels, an example of which can be seen in Fig. 95. In the Aegean, animal figureheads are a rare feature. The paddled boat on the sealing from Ayia Triada in Fig. 76 has an animal-headed stern, as does what is probably a cult vessel on the Mochlos ring, Fig. 85. In both instances the creature faces inward rather than outward, in contrast to the Theran figureheads. Animal figureheads were otherwise common in the ancient world, often (as in the case of the Greco-Roman goose emblem sacred to Isis) associated with or representative of deities. In New Kingdom Egypt names of animals were used in describing the qualities of ships, thus extending the metaphoric context.

On the Theran ships, the significance of the figureheads lies partly in their content (lions and seemingly griffins again associated with one another and with warriors) and partly in the fact that they are applied to the sterns of ships by reason of the high status and, on



85. Gold ring from Mochlos, LM I.

occasion, the sanctity of this area. Thus on New Kingdom ships the 'ankh' sign indicative of 'life' was frequently painted on the stern, 'appropriately . . . since it was here that there stood the life of the ship, the captain and helmsman'.⁹⁹

The stern projection

Most likely, the captain and his entourage reached their positions on board by way of the conveniently placed plank projecting aft immediately behind the captain's cabin. As Marinatos and his nautical advisor T. C. Gillmer suggested, the stern projection was almost certainly for the purpose of landing and boarding.¹⁰⁰

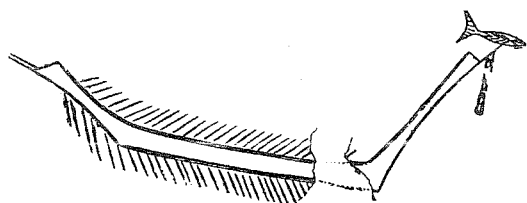
Such a projecting structure, contrasting with the high, decorated extremity, has caused controversy since the first publication of the Early Cycladic 'frying pan' boats which show these features (Fig. 86).¹⁰¹ The debated questions are: whether the projection extends fore or aft; whether it is a ram, a fixed rudder, or a projection of the keel.¹⁰² For many scholars the fact that Geometric and later Greek ships clearly depict a ram provided an anachronistic sense of continuity. The Theran ships, by delineating details which on other Aegean representations of the period are merely summarily depicted, clearly show that the high, decorated extremity is the prow and the projecting structure extends aft. As Casson remarked, the painting settles the controversy as to which end is which¹⁰³ (with the qualification that on

different types of vessels the same feature may have had variable functions).¹⁰⁴

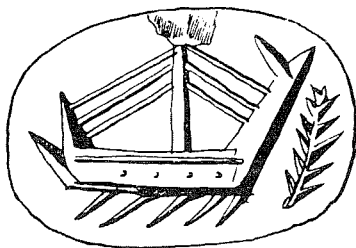
The stern projection is a specifically Aegean element of shipbuilding at this time. It may be that its technical origins differed from its function on the ships in the painting. Many scholars have presented the plausible argument that the projection originated as an extension of the central plank or keel (usually, in this context, meaning the hollow log which forms the central backbone of simple plank-built boats derived from dugouts).¹⁰⁵ The angle of the projection (like that of the hull) varies. At times the projection extends horizontally in a direct line with the base of the hull (as in Pl. 163), demonstrating the likelihood of its derivation from the central plank.¹⁰⁶ At other times the projection bifurcates from the stern at so high an angle that it appears to lack any functional purpose (Fig. 87). Evidently the feature varied both structurally and in function, a fact borne out by the apparent change in position from aft to fore on vessels at the end of the Bronze Age (Fig. 88; cf. n. 31). Thus the important factor is not so much the functional origin of the projection (most likely, as stated above, as an extension of the central plank) but the principle of an extension to the hull near the water-line. The tradition persisted in the Aegean throughout the Bronze Age; the position of the projection only changing with time.¹⁰⁷

On the Theran ships the angle of the construction (forming a bifurcation with the continuous upward sweep of the hull, as on Minoan seals), the continuation of the base of the structure along the side of the hull and the ropes attaching the upper section to the top of the hull make clear that the structure is removable rather than an integral part of the ship's design. Theran shipwrights apparently utilized the traditional principle of a projection near the water-line, adapting it from an organically related part of the construction (the continuation of the central plank) to a removable structure with a specific purpose. This is unlikely to have been an isolated innovation, though the cursory depictions on glyptic surfaces with their lack of detail do not admit comparison.

The construction is of two parts. Although impractical



86. Ship incised on an EC clay 'frying pan'.



87. Steatite prism seal, East Crete, MM I-II (?).



88. LH IIIc sherd from a Tholos tomb at Tragana, Pylos.

drawings of its hypothetical form have been published by Marinatos and Casson,¹⁰⁸ it has been well described by Gillmer: 'The lower part . . . so bifurcated that it fitted the stern-form of the boat horizontally. It is no doubt wedge shaped as it extends aft from the stern. Attached upright to this and acting as a knee-bracket on top is a painted, angled timber. This is strapped to the stern by two belted and removable lashings.'¹⁰⁹ (The idea that only the upper part is painted comes presumably from the flagship on which this area is blue.) The upper part is, then, a support for the lower; the lower part is a wedge-shaped piece of wood attached to the hull above the water-line.

Interpretations of the purpose of this structure have been various, but that of Marinatos and Gillmer cited above – that it is a form of landing plank – is the most reasonable. Alternative interpretations have provided the structure with a function at sea, but the arguments cannot be supported. In a footnote added by the editors of *Seewesen* to Marinatos' unanswered question of whether the structure might have had a stabilizing effect over the roll of the hull, W. zu Mondfeld suggests that the structure acted as a stabilizing fulcrum correcting a leeward drift characteristic of ships of this type (he assumes that it has no keel and largely follows Egyptian lines).¹¹⁰ Perhaps he had in mind something akin to the fixed rudder which Evans thought was the function of the projection on EC ships.¹¹¹ Casson objects to the idea partly because the sailing ship, which would be most in need of such a device, is without it, and partly because the structure (as Marinatos also notes) is above the water, 'not immersed in it as any device to reduce leeway would have to be'.¹¹² His alternative suggestion, however, has been criticized for precisely the same reason. He postulates that the structure is a device to 'maintain proper trim' on the large ships which have an 'unbalanced load' of people aft: 'Such a platform by offering resistance to the water, would prevent the concentration of weight aft from depressing the stern.'¹¹³ Tilley and Johnstone point out that since the structure is not *in* the water it would have had the opposite effect, weighing down the stern still further. Their alternative interpretation follows that of Marinatos and Gillmer – that the structure is a landing plank – and further involves the possibility that the structure was used as a device for beaching and launching the ship.¹¹⁴

Theoretical interpretations on the purpose of the construction are only partially helpful. Comparative iconography is, in this case, the only reliable source of evidence. Marinatos, having previously explained the projection on Aegean ships as part of the prow, commented with surprise that if it were not for the helmsman at the stern one might take the projection for a ram.¹¹⁵ Having thus taken this to be an exceptional structure he

looked no further for iconographic parallels which would elucidate its function. Yet his analogies with later, literary sources have nonetheless provided a reliable interpretation of the projection. Primarily it is taken to be a landing plank, a Bronze Age equivalent of the Classical ladder and related to the ἐφόλιον, that mysterious object down which Odysseus escaped into the sea.¹¹⁶

Significantly, the stern projection occurs only on Aegean ships, a fact which reflects its function. Vessels from surrounding regions all lack this feature, even those incised on the stones from Tarxien on Malta, otherwise so akin to Aegean ships.¹¹⁷ In Egypt and the Levant landing and boarding took place at the bow by means of portable ladders, as one can see from the Deir el Bahri relief of Hatshepsut's expedition to Punt,¹¹⁸ and (if one can rely on the exactitude of an Egyptian representation of Syrian ships) from the painting from the tomb of Kenamun in Fig. 75. Thus, clearly, a stern landing plank was unnecessary. In contrast, a firm tradition of beaching ships stern first can be traced in the Aegean.

In the Homeric epics, ships are beached high on to the shore stern first. The suggestion that the projection on Aegean Bronze Age ships could have been used as a protection against the shock of beaching has been made more than once, but the conclusion that this would have involved beaching stern first is less forthcoming.¹¹⁹

In the Classical period a ladder was usually carried at the stern for boarding and is frequently seen precariously balanced across the rising stern of ships on 5th-century vase paintings.¹²⁰ In 1933, Marinatos suggested that prehistoric vessels probably had an analogous arrangement.¹²¹ His belief that this analogy is to be found in the stern structure of the Thera ships is cogent,¹²² for the tradition expressed in the Classical examples can be traced back through time to the Bronze Age. During the Geometric and Archaic periods, prior to the use of ladders, it appears that rudders were let down for use as



89. Gold ring from near Herakleion.

landing and boarding planks. A man parting from a woman is shown walking up the rudder to his ship on an 8th-century Attic bowl;¹²³ a similar scene occurs on an ivory plaque of the 7th century from Sparta.¹²⁴ On a 7th-century oinochoe from Cyprus, a man crouches precariously on one of the two massive steering oars obligingly held out by the helmsman.¹²⁵ Illustrated here in Fig. 91 is a scene from an 8th-century Attic oinochoe depicting a line of warriors walking up a projection extending from the stern and leading up to the ship.¹²⁶

The tradition of stern beaching is also documented for the Bronze Age. It can be seen on the Cretan ring in Fig. 89 and on the Tiryns ship ring in Fig. 68; in both cases evidenced by the steering oar, in use on the former, dangling on the latter. (Here, too, the theme of a man and woman at the stern of a departing ship which was cited for the Geometric period is prefigured in the Bronze Age.)

Stern beaching implies stern boarding and one clear piece of evidence indicates that a structure like that on the Thera ships was used for this process. Fig. 90 shows a boat on an incised rock from Naxos, published prior to the discovery of the Thera paintings and compared by Dumas to Early Cycladic vessels.¹²⁷ Dumas then saw the ship as beached stem first and the man on the left as mounting 'la protrubérance en forme d'éperon'.¹²⁸ But it is now possible to compare the specific elements of the Thera painting which are reflected in EC vessels: the high prow and the lower stern with its projection just above the water-line of the hull. Adding to this the documented evidence for the tradition of stern boarding in the Aegean, it is quite clear that the man is stepping onto a projection at the stern.

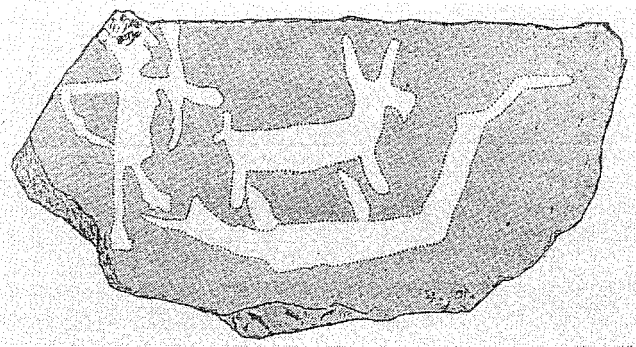
In the paintings, the only vessels equipped with the gang-plank are the large ships in procession. On board these are the occupants of the stern cabins and the élite passengers, seated under protective awnings and dressed in garments unsuited to seamen, who would well

appreciate an aid to climbing over the high hull when boarding and disembarking. In this instance, the status of the passengers necessitated the luxury device.¹²⁹ The fact that the structure is engaged while the vessels are afloat confirms the previous observations that the ships are making only a short journey.¹³⁰

The stern cabin

The use of a central awning and, above all, a stern cabin on these ships indicates both the high status of their occupants and the importance of the occasion. Like the stern projection and figurehead, these features have been added specifically to the large ships in procession. They provide conspicuous shelter for the élite, and the captain's cabin emphasizes the significance of the stern area.

These are the only elements of the ships which suggest foreign influence. The very few comparable examples from the Aegean are either approximately contemporary or later than the Thera painting. The awning of the Tiryns ship ring, Fig. 68, has already been cited with reference to the mast placement; it offers the closest analogy to the Thera ships. A central awning may also be recognized on a few LM I-II sealstones on which lines normally indicating the sail have been adapted to suggest the sides of an enclosed awning (as in Fig. 83).¹³¹ The crossed lines suggest matting, hung over the awning to form a light-weight cabin.¹³² Two clay sealings from Knossos depict decked areas midships; on one there is a structure which could be interpreted either as a balustrade or as an awning; on the other a structure over the heads of rowers may also have been an awning (as Evans indicated in reconstructed drawings).¹³³ On the seal in Fig. 72, a fence-like structure appears at what may be the stern (compare the structure at the stern of the fragmentary shipwrecked vessel in Pl. 3, lower right). Probably contemporary with this is the incised stone from Hyria in



90. EC incised rock from Naxos.



91. Drawing from an 8th-century Attic cup.

Boeotia in Pl. 165, which has cursory delineations of both stern and bow cabins.¹³⁴ This tradition continued through to the end of the Bronze Age, as shown by the IIIc Tragana sherd in Fig. 88. Stern structures occur on cult vessels in association with female figures on the Mochlos ring in Fig. 85, the East Cretan seal in Fig. 99 (the significance of which is discussed below), and the seal from Thebes in Fig. 98. The structure of the last of these is remarkably like that of the Theran cabins. It may be, as Warren points out, that there is a close parallel to the stern cabin on the stone fragment from Epidauros in Pl. 193, but unfortunately nothing more of the ship is preserved.¹³⁵

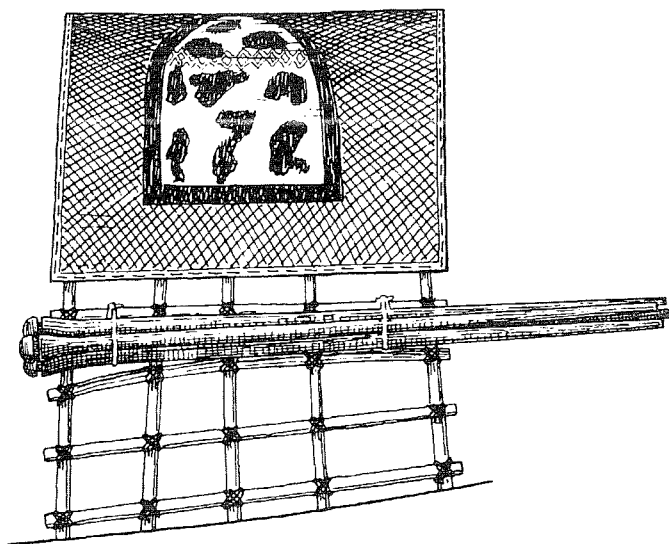
Beyond these few examples there is nothing to compare with the elaboration of the structures in The Ship Procession. Yet a central awning or cabin and structures at both bow and stern were common features of Nile craft. Deck cabins with standards (comparable in some ways to the poles extending aft of the cabins in the painting) first occur in representations of Pre-dynastic times.¹³⁶ Old and Middle Kingdom vessels were frequently constructed with a deck-house midships or aft of midships.¹³⁷ Bow structures and a central awning made of matting are illustrated on the 12th dynasty ships from El Bersheh in Fig. 94. From the 11th dynasty Tomb of Meket-Re at Thebes came models of boats with stern cabins decorated with hide shields, an example of which is shown in Fig. 92. Here is an indication of warrior status similar to that suggested by the helmet, spear and shield-like hide cabin at the sterns of the Theran ships (cf. p. 107). It should be noted that the Theban models represent peaceful Nile craft, with no implication of battle.¹³⁸ During the New Kingdom, in the 15th–14th centuries, luxury travelling craft were provided with an enclosed deck-house complete with doors and windows and painted walls.¹³⁹ Stern and bow structures are indicated on the Viceregal ship from the Tomb of Huy in Fig. 95. Also on this vessel is a central cabin. In the extract from a painting of a funerary procession in the Tomb of Userhêt shown in Fig. 96, the cabin dominates the boat by virtue of its great size and elaboration, so great is its significance in the proceedings. From these illustrations it can be seen that the structure and decoration of the cabins vary greatly according to their function. They range from simple, wattle or plank-built lookout-posts to enclosed awnings and richly decorated cabins.

On the Theran ships the central awnings are simple, overhead shelters supported on upright posts. The shipwrecked vessels have summary structures at the sterns and, on one, a lookout-post at the bow. The elaborate stern cabins on the large ships presumably derived from simpler versions such as these. On the rowed boat (by the Departure Town) and two of the moored boats (in the

Arrival Harbour) a hump at the stern suggests a wind-break affording protection for the captain seated inside.

The structure of the stern cabins of the ships in procession is repeated in the large-scale Stern Cabin panels painted on the walls of Room 4 (cf. Pls. 173–7 with Pls. 178–9; Fig. 97). These panels were thought to be unique, but recently M. Shaw has identified the Mycenaean fragments long known as the ‘Curtain Fresco’ as belonging to a similar composition of large stern cabins, proposing reconstructions of the actual cabins on which the images are modelled.¹⁴⁰ The Mycenaean paintings are fragmentary, but as far as one can tell, though the basic structure is comparable to that of the Theran cabins, neither details of structure nor the highly patterned surface bear close resemblance.

Each of the Theran cabins comprises three vertical struts over which a hide is stretched, forming a screen shaped at its upper edge in two curves. The hide covers the front of the struts – which project above in equal ratio – and is bound over them at the edges. Two horizontal struts – at the base and midway up the hide – are added externally to strengthen the structure, a third supports the verticals near the top. On each individual cabin, the curved upper edge of the hide imitates the struts in colour and decoration. While the straight horizontals must have been of wood, this feature may have been of padded leather. On the walls of Room 4, in particular, the cabin images are quintessentially two-dimensional. Their three-dimensional form can be imagined as follows: the structure, as seen on the ships from the starboard side,



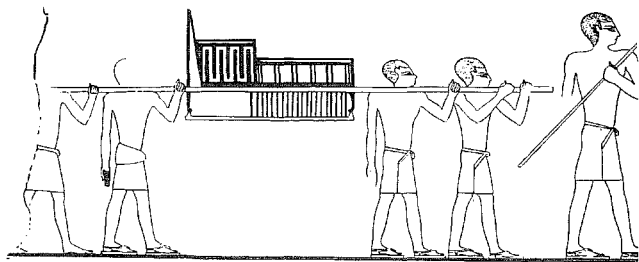
92. Stern cabin from a model of a sporting boat from the 11th dynasty Tomb of Meket-Rē, Thebes.

would have been identical on the port side; the back is certain to have been enclosed, thus offering support for the seated man within, for the long pole or spear projecting aft rests on the upper edge; the fore side may have been open.¹⁴¹ The top was apparently open, for, as Marinatos points out, the head of the man inside the cabin of Ship 4 extends above the top horizontal strut (Pl. 176).¹⁴² On Ships 1, 3, 4 and 7 a helmet is perched atop one of the vertical struts. The flagship, 2, has a 'waz' lily-papyrus motif atop each of the three struts (Pl. 174). Ship 1 has bunting hanging from the uppermost horizontal strut, echoing in its fall the curve of the hide below (Pl. 173). These two cabins are the prototypes for the large Cabin motifs in Room 4, which have both these features (Pls. 178–9; Fig. 97).¹⁴³

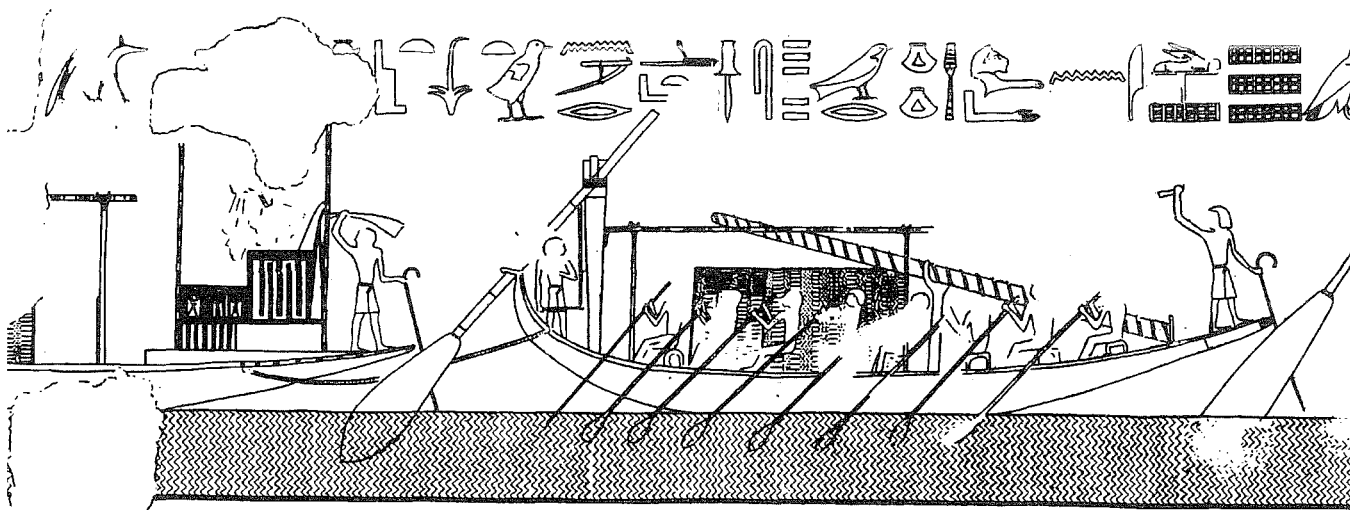
The cabin rests on an elevated platform on the poop deck of the ships in procession, and only on these. Evidently the structure is not a normal part of the ship's equipment and it must have been carried onto the ship for

the purpose of the occasion. Both in form and in function, with its privileged occupant seated inside, it resembles a litter. On land, such means of transport was, at least occasionally, used in Crete, as shown by the clay model of a litter from the Loom Weight Basement at Knossos and possibly by the Palanquin Fresco.¹⁴⁴ On boats in Egypt, cabins were removable structures and, in some cases at least, were carried onto the vessel in the manner of a litter. The stern cabins on the Middle Kingdom boat models from the Tomb of Meket-Re could be moved to face in the opposite direction when the wind changed.¹⁴⁵ In structure, the canopy or stern shelter frequently applied to New Kingdom ceremonial boats resembles the form of shelters used on land by Egyptian royalty (the 'seh'), which are depicted either placed on the ground or lifted on the shoulders of porters in the manner of a litter.¹⁴⁶ That the cabins on boats were also carried in this manner is shown by the illustrations from the Middle Kingdom Tomb of Tehuti-hetep at El Bersheh in Figs. 93–4. The litter is first shown carried by porters on a long pole (93) and then in position on the ship (94). Conceivably, the stern cabins on the Theran ships were similarly carried into place by means of the long poles/spears extending aft. Certainly they must have been brought on board via the stern, and one of the necessities of attaching the gang-plank just beneath the cabin thus becomes evident.

The area of the stern is decked, the landing plank leads up to it, and the most important member of the ship is seated in style in the stern cabin. Clearly, the area of the ship to which most significance was attached was the stern, and the cabin provided the focus of attention. This aspect of nautical life was to continue through into later



93. Men carrying a sedan chair, from the Middle Kingdom Tomb of Tehuti-hetep, El Bersheh.



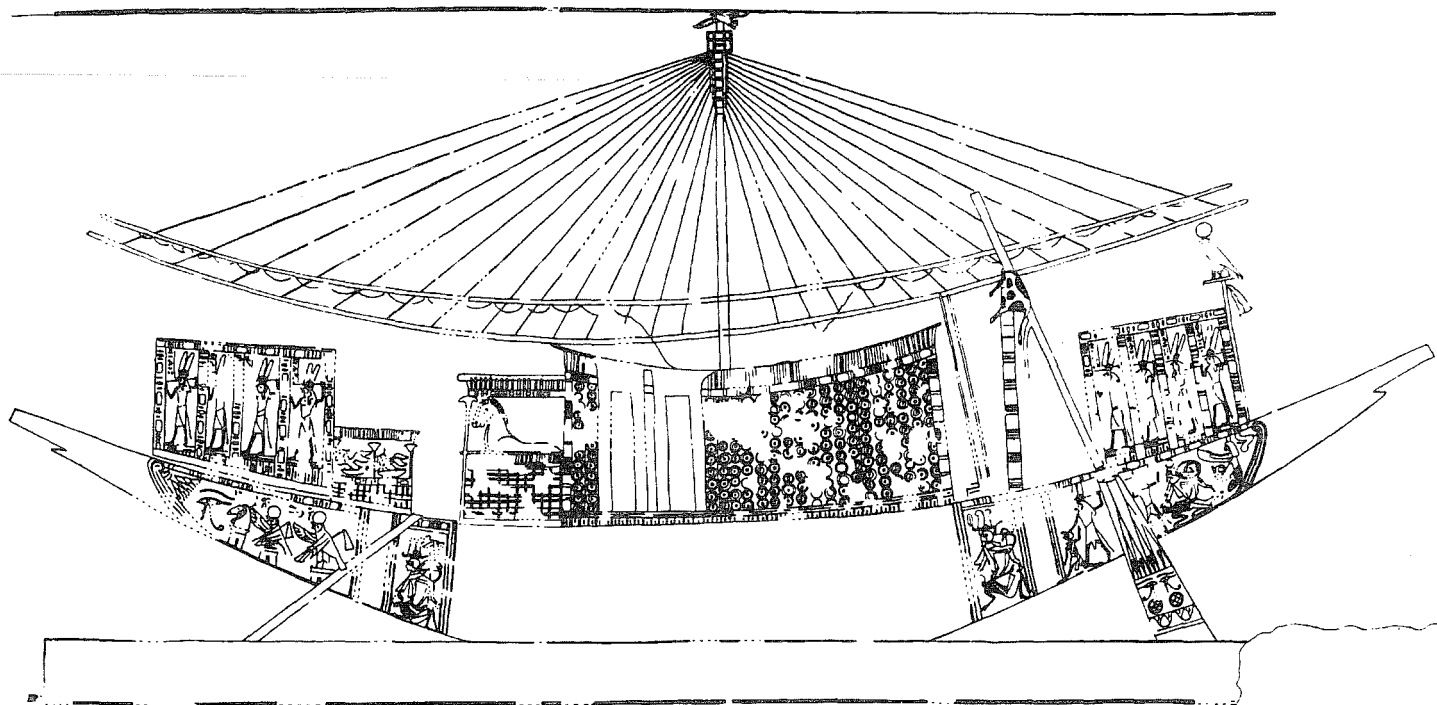
94. Boats from the Middle Kingdom Tomb of Tehuti-hetep, El Bersheh (from the same wall as Fig. 93).

times and, to some extent, the tradition still pertains today. Greek literature provides an insight into the particular importance of the stern area. As Morrison and Williams point out, Aeschylus uses the phrase 'in the stern' to signify 'in command' and 'officer of the poop' metaphorically refers to the ruler of the city.¹⁴⁷ The stern is also considered the appropriate place for heroic men and for deities: thus in the *Odyssey*, Telemachus takes his place there beside Athene.¹⁴⁸ A stern cabin as the place of honour (whether for nobleman, king, commander or captain) was a feature common to Egyptian, Classical and Byzantine ships.¹⁴⁹ Even today it is the aft of the ship which is reserved for the officers.

Yet even with such a tradition, the repetition of the elaborate stern cabins of the Thera ships in massive scale around the walls of the adjoining room is worthy of special note. Marinatos, in comparing the hide cabins with shields, suggested that on board ship the captain may have fought from behind the structure.¹⁵⁰ Certainly the helmet above some of the cabins, and the spear or pole behind all, identifies the captain as of warrior status. (Though the pole could also be compared with those which project above cabins on New Kingdom vessels for the display of the owner's standard (Fig. 95), or with the insignia poles projecting aft of the stern shelter on

Classical galleys.)¹⁵¹ Marinatos' concept resembles the idea expressed elsewhere that the enclosed platforms at bow and stern on Egyptian and Greek ships were forerunners of the medieval naval fighting castles.¹⁵² The use of such structures in fighting can be seen in the Medinet Habu relief depicting the battle between Egyptians and the Peoples of the Sea (Fig. 84). However, this scene, of c. 1200 B.C., is usually thought to be the first representation of an actual battle at sea (as opposed to the transport of troops by ship to the scene of a battle on land).¹⁵³ No earlier examples survive, and it was noted above that cabins decorated with shields on Middle Kingdom models of boats were applied to peaceful craft, unconcerned with warfare (p. 138 and Fig. 92). Equally, the martial aspects of the occupant of the Thera cabin may refer to his land, rather than his sea, rank. Indeed, the elaboration of the cabins and their repetition as individual motifs suggest a significance beyond the functional or the ordinary.

This type of cabin is closely paralleled on New Kingdom papyriform boats of a slightly later date (mostly from the late 18th and the 19th dynasties).¹⁵⁴ The example in Fig. 96 is from a wall painting from the Tomb of Userhêt at Thebes. Its juxtaposition with an illustration of one of the Thera cabins in Fig. 97 draws atten-



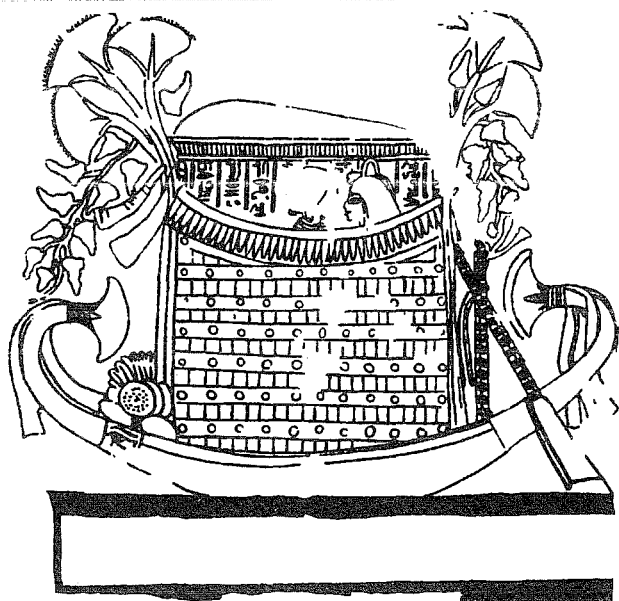
95. Viceregal state barge, detail from a wall painting in the Tomb of Huy, Thebes, 18th dynasty (reign of Tutankhamun).

tion to the similarities in proportion and design. The heads of the occupants are visible above the curved upper edge of the cabin, as aboard the Theran ships. Groups of the three papyrus plants adorn the tops of the cabin, just as on the Theran cabin three 'waz' motifs with papyrus centres adorn each vertical strut. In discussing this motif in Ch. 2, it was said that Rutkowski has drawn attention to the religious associations of these 'waz' emblems (p. 23 n. 63). His point may bear on the function of the cabin on the occasion shown. For the cabins of comparable form on Egyptian vessels were used not for ordinary nautical journeys but for boats taking part in ceremonial processions. Their decoration is extraordinary, not normal practice. Clearly the occasion and the type of ceremony for which the cabins were used were different in the two regions – the Theran ships are certainly not in a funeral procession up the Nile as is the boat from the Tomb of Userhêt – but the principle of equipping the vessel in this manner for an important event is comparable. Just as the Egyptian ceremonial cabins differ in form and decoration from the simpler varieties in use in the region, so the type of cabin on the Theran ships is grander in style than anything known from the Aegean.

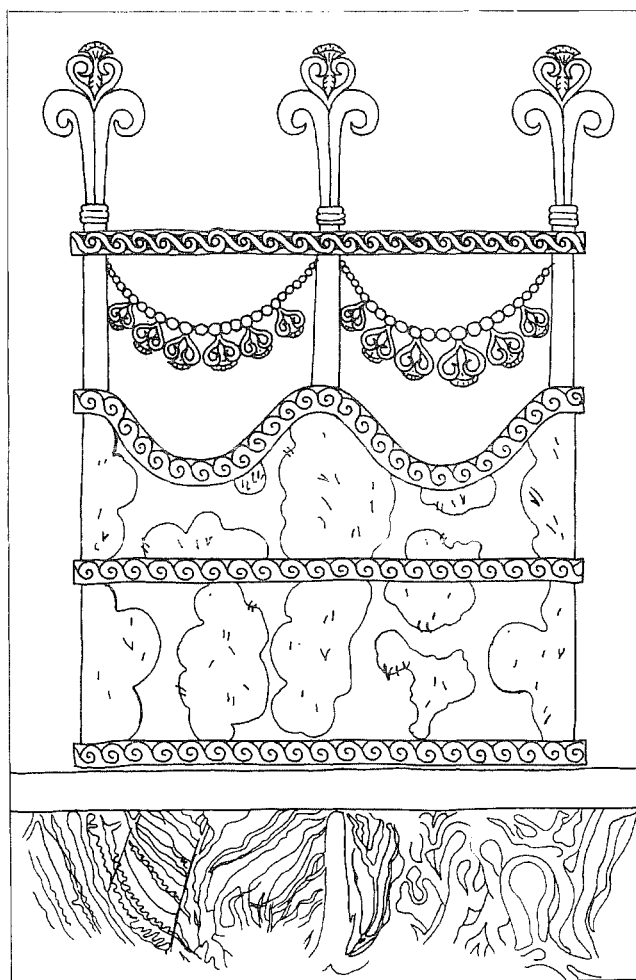
From the foregoing study of the ships' details it is possible to determine the type of event depicted in the paint-

ing. Throughout this chapter, details have revealed that the ships cannot have been travelling over a long distance, and that they have been equipped for a particular occasion which calls for the participation of esteemed non-crew members on board, the decoration of the ships, and a particular emphasis on the area of the stern.

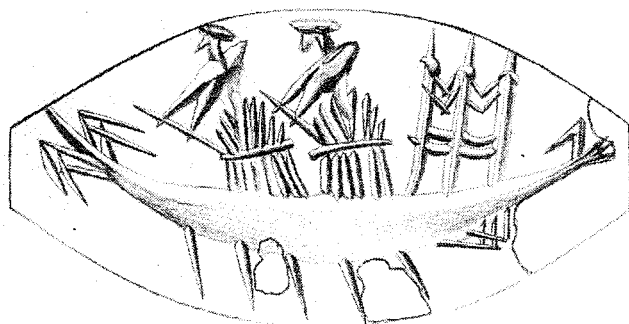
With the contemplation of the nature of The Ship Procession we move, finally, from an analysis of the individual iconographic categories contained within the paintings to the broader meanings of the individual scenes and, from them, to the overall dominant theme.



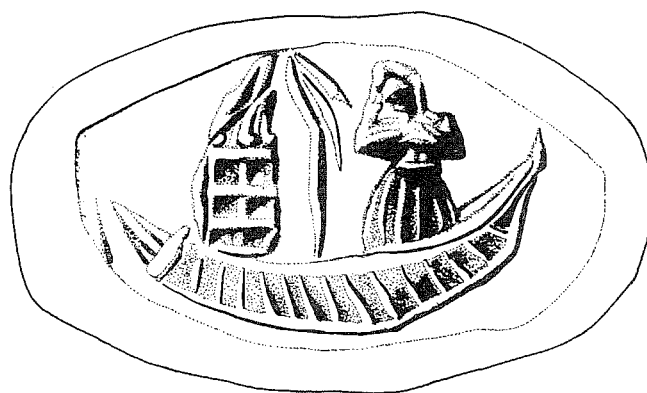
96. Boat in a funerary procession, detail from a painting in the Tomb of Userhêt, Thebes, 19th dynasty.



97. One of the Stern Cabin panels in Room 4. (After K. Iliakis.)



98. Amygdaloid grey stone sealstone from Thebes.



99. Sealstone from Makrygialos, East Crete.

PART II

THEME

10

THE NAUTICAL PROCESSION

The Ship Procession frieze was painted on the South Wall of Room 5. At the end of this partition wall a doorway led through into Room 4 on the walls of which were painted the large Stern Cabin panels. The relationship can be seen most clearly on the plan of the room in Fig. 2. There was a total of eight Stern Cabins (Pls. 178–9; Fig. 97).¹ Figs. 5 and 6 suggest the positioning of these panels on the walls. In the Ship Procession there were seven ships with stern cabins.² Another fragment of a ship, unpublished but on exhibition (above, p. 4), is too fragmentary for us to see whether it had a stern cabin aboard but is clearly of the same type of vessel as the ships in procession, though it could hardly have belonged to the same wall (below, Ch. 12, p. 162). Thus the number of Stern Cabins in Room 4 is likely to have corresponded to the number of ships with stern cabins in Room 5.

Also in Room 4 was the panel of The Priestess (Pl. 180). It was found in the north-east corner of the room and was considered by Marinatos to have come from the North Wall. Doumas prefers to place the panel on the jamb of the door connecting Rooms 4 and 5 (an unprecedented scheme).³ In the suggested reconstruction in Fig. 6, I have marked both positions, considering that of the North Wall to be the more plausible. It thus stood on (or near) the partition wall dividing 5 from 4, backing onto The Ship Procession, adjacent to (or within) the doorway connecting the two rooms (Fig. 2, plan). Surrounding her, and on the same relative scale, were the eight Stern Cabins. Facing towards the left, she holds a plant over a brazier with her hands poised in the Egyptian offering gesture: a relatively new position in Aegean iconography though it was soon to become a standard gesture for Procession figures.⁴ She is a spectacular figure, dressed in a long, wrap-around saffron-coloured garment inspired by the fashions of oriental priesthood, wearing a large decorated earring, blue head adorned

with a curving snake, and with lips and ear flauntingly painted red.⁵ This dazzling lady makes her offering not in isolation but in association with the Stern Cabins which surrounded her. The Stern Cabins are themselves large-scale reflections of the cabins at the sterns of the ships in The Procession.

Such reiteration of theme as is seen in the image of the Stern Cabins indicates that the paintings are not isolated from one another in idea or function even when separated by the physical divisions of walls. Indeed, the juxtaposition of wall surfaces (side-by-side, opposite or back-to-back) is utilized in juxtaposing related images. The full analysis of these relationships is presented in the study of Theme in the penultimate chapter. Here, one such relationship is relevant to an understanding of the meaning of The Ship Procession: that of utilization of the walls of the adjoining room in emphasizing particulars of the occasion celebrated in the painting. For something of the nature of that occasion is intimated in the presence of the Priestess and her association with the Stern Cabins.

Traditionally the stern has been considered the proper place for any form of preparatory ritual or thanksgiving worship connected with the welfare of the ship and the success of its voyages. Thus in the *Odyssey*, Telemachus, on embarkation, prays and sacrifices to Athene at the ship's stern.⁶ A small altar was placed on the poop deck of Greek ships for thank-offerings on safe arrival; Roman ships had shrines erected at the stern for the protective deity; and in the Christian era the tradition was continued in representations of the Virgin Mary carried at the stern.⁷

A feature of such rituals was the burning of incense. Depicted on a Roman relief is a thanksgiving ceremony on board a cargo ship entering its home port: a group of figures stand around an altar at the stern, a woman holds an incense box while a man sprinkles grains of incense

onto a fire on the altar.⁸ The tradition was evidently widespread and extended over many centuries, for a similar scene can be seen in a painting from the 15th-century Tomb of Kenamun at Thebes, providing an example of such ritual at a time almost contemporary with the Thera paintings. The painting is now destroyed and survives only in drawings; Fig. 75 illustrates a detail of the scene. Syrian merchants are shown entering an Egyptian port of commerce; on two of the ships a richly dressed Syrian is making an offering before disembarkation. In the detail the man holds his hands in the offering gesture and the brazier and flame comprise the ideogram for incense.⁹

This man making his offering on board ship provides a striking parallel with the Thera priestess (Pl. 180). Their offering gesture identifies their role as officiates and both are associated with ships. The Syrian faces towards the bow, for it is there that he and the crew will disembark. The Priestess faces towards, and is surrounded by, the Stern Cabins. The Cabins correspond to those on the ships in *The Procession*, which are situated at the sterns in (as the gang-planks show) the area of embarkation. It may well be that the priestess represented in the panel made her offering in an act which took place at the stern cabins on the ships represented in *The Procession* frieze. A comparison with an LM sealstone from Makrygiolos in Eastern Crete offers a rare chance to move, iconographically, from anticipation of an event to the event itself (Fig. 99). A woman stands on board a boat; from the distinction between the height and depth of the two ends of the vessel she can be seen to be facing the stern; her arm is raised in the familiar gesture of Minoan votaries and her reverence is directed towards a cabin at the stern.

Clearly, this interpretation of the role of the Priestess necessitates that the act of reverence at the sterns of the ships took place either before or after the moment depicted in *The Ship Procession*. Such continuity of theme with its implication of related events in changing time and space will be analysed in Ch. 12 where the West House paintings are viewed as a whole. Here, the significance of the interpretation lies in what it reveals about *The Ship Procession*.

The nature of the event in which the procession took place may be traced through analysis of the details of the ships themselves. In the preceding chapter it was noted that the ships differ from their prototypes in several distinct ways: they have been provided with elaborate decoration in the form of specific emblems applied to prow, stern, hull, mast-top and dress-ship lines; provision for the passengers has been made in the form of the luxury device of the stern landing-plank and the protective structures of central awning and stern cabin. The emphasis on the stern which defines it as the area of greatest dignity is now shown, by the involvement of The

Priestess, to be further imbued with sanctification. Added to these observations is the fact that the ships are unprepared for a long journey: the sailing ship has no standing rig, the large ships are propelled by the unusual and awkward method of paddling, and the gang-planks are still engaged. Thus it is clear that the ships are travelling only a short distance, that they have been attired in order to create an impressive display, and that the occasion which has initiated the procession has sufficient significance for religion to be part of the proceedings.

All the evidence demonstrates that the ships are not on an ordinary sea-going journey but are taking part in a procession.¹⁰ From the elaborate adornment of the ships, the short distance travelled, the participation of the populace in the event, the implication of related ritual and the maritime emphasis of the painting, I have, elsewhere, suggested that the ships in procession are taking part in a nautical festival.¹¹ Here, I will outline some analogous festivals in further support of this interpretation.

Nautical festivals and processions are performed by virtually all maritime peoples and, no matter where their geographic setting, certain aspects are found in common: aspects which are applicable to the Thera Ship Procession. Garlanding the prow is a common custom at nautical festivals and, in particular, at ceremonies performed at the launching of a new vessel; for the prow is generally considered to be the appropriate place for the application of both identifying emblems and tutelary garlands. (It is the part of the ship which leads and often that which 'sees', both literally in the form of the man who stands in the observation post and metaphorically in the form of a painted oculus.) Associated with the garlanding of the prow at such launching ceremonies are propitiatory rites in which a lamp is lit, camphor or incense burned, and libations and offerings made for the protection of the boat and its crew. The vessel may also be decorated with flags, flowers and paint; coloured cloths hung at prow and stern; and the skin of a sacrificed animal attached to either prow or stern.¹² Such aspects are not restricted to ceremonies concerned with the launching of individual vessels but also apply to craft taking part in processions.¹³ Such events are widespread, but by confining parallels to the Mediterranean littoral a pattern emerges which should throw light on the nature of the nautical festival represented in the Thera painting. In this part of the world such ceremonies, as documented, are chiefly concerned with launching on a greater scale: the launching of a new season or year, and in particular of the new navigation season.

In the ancient world such festivals were: the Babylonian Zagmuk or Akitu, in which ceremonial ships travelled to Marduk's temple in Babylon where the fates

for the new year were to be determined; the Egyptian New Year *Öpet* festival, in which vessels in honour of Amun travelled along the Nile to Luxor; the Greek and Roman Isis festivals which inaugurated the new year's navigation season.¹⁴ In these, as in other nautical festivals, the ship was adorned; the prow was garlanded, the hull painted, flags or cloths hung, and attention paid to such details as the mast-top and stern.

The analogy with the Thera painting goes beyond such details of the ships' attire. The animated awareness of the procession displayed by the townspeople and the inclusion of men in the procession whose clothing and armour link them more closely with land than sea clearly indicate that not only mariners take part in the event, the entire population is involved. Such was the case in the comparable ship processions. The Egyptian *Öpet* festival had, amongst those in the large procession which accompanied the boats, priests, dancers and musicians, soldiers armed with spears and shields or carrying standards, and a crowd of Theban inhabitants.¹⁵ In the Greek and Roman navigation festivals the streets were filled with people all dressed in their best attire according to their status and occupation, including warriors, hunters, fowling and fishermen, each holding the tools of their trade. Amongst these people were the priests, who purified the vessel as it was launched and poured libations into the sea.¹⁶

These ceremonies therefore involved particular acts which have been or are being performed in the painting: acts such as the garlanding of the prow, the priestly blessing of the ship and, in the case of the *Öpet* festival, the application of a traditional rather than contemporary method of propulsion: paddling.¹⁷

In the Mediterranean, storms, unpredictable winds and short days made it unsafe for ships to take to sea during the winter months. There was, therefore, a carefully defined nautical season when winds and sea could be relied upon. The sailing season began in spring when the swallows were present, the meadows in bloom and the sea calm.¹⁸ It was a season which the Thera painters knew well. Although, as Sakellariou notes, the entire sailing season during Greek Classical times began in early March,¹⁹ this period was still hazardous and therefore seafaring was severely restricted (some merchantmen sailing, but no warships as they carried too many valuable lives). The real sailing season began in May.²⁰

So important were the festivals designed to ensure safe navigation that tradition perpetuated them through time (even when ships were of a type that no longer needed to beware of winter winds). At the end of the last century Bent observed ceremonies on Thera which were designed to ensure safety for the island's sea-craft: 'when they have built a new vessel they have a grand ceremony at the

launching . . . at which the priest officiates; and the crowd eagerly watches . . . It is customary to slaughter an ox, a lamb, or a dove on these occasions.'²¹ On Therasia he saw the annual Blessing of the Sea, an occasion on which the priest blessed the waves and 'all the inhabitants of the town, a hardy seafaring race' took part in the procession.²² Today, when ships can travel regardless of season, such a ceremony still occurs annually at Piraeus, and on this occasion all the craft in the harbour are adorned with bunting.²³ Details of such ceremonies have become Christian and of course the span of the navigation season differs from that which it was in ancient times. Yet the basic principle of attempting to safeguard life and craft at sea through annual propitiatory ceremonies is the same. There is no reason to suppose that Bronze Age maritime communities in Greece were any less cautious in their preparations for the annual nautical season.

Indeed, some evidence for awareness of seasonal navigation survives in the Linear B tablets. The word *po-ro-wi-to-jo* has been interpreted by Palmer as the genitive form of *Plowistos*, the month in which navigation was resumed after the winter months.²⁴ *Po-ro-wi-to-jo* occurs on Pylos tablet Tn 316 (Kn D2); Ventris and Chadwick consider that the word represents part of a month and is here the general heading for the tablet.²⁵ The tablet lists gold cups and bowls in association with Man or Woman ideograms. A number of interpretations of the ideograms have been offered (figurines, human sacrifice) but the most intriguing in this context is that the function of the people was to carry the vessels, like the figures in the Procession Frescoes.²⁶ The Thera Priestess, making her offering at the stern cabins while holding a vessel, would be a fine corollary to this interpretation. *Plowistos* does not, to date, occur with certainty on other tablets.²⁷ However, in two of the Knossos tablets offerings of oil are made to 'The priestess of the winds' in, respectively, the months of *Deukios* and *Lapatos*.²⁸ The months differ (at least in name); yet here the administration of offerings in association with winds is redolent of propitiation for nautical success and the concept, again, evokes the role of the Thera Priestess.

Whatever name was given to the month in which the event in the painting took place, the event itself is clearly specific and therefore time, too, is likely to have been specific. The most appropriate occasion for a nautical procession on so grand a scale as this is the resumption of the navigation season. The emphasis of the frieze and associated panels is maritime; the occasion depicted is festive and ceremonial. This event was clearly of central importance to the people of Thera, themselves a maritime community, for it dominates the paintings of the West House.

11

GENRE SCENES

A genre scene is one which contains a combination of elements frequently repeated in the repertoire of artists. A genre may be based on a certain type of event of either historical or daily significance but it does not show a particular instance of that event. It expresses the idea of a scene rather than a scene itself.

Images containing two components frequently combined in iconography may be termed genre images, but they are not genre scenes if they occur within a larger subject which is itself unique iconographically or a depiction of a unique event. Such genre images are the 'women waving from windows/balconies' in the Arrival Town and the 'lion chasing deer' above the Departure Town. Both are frequently repeated in Aegean iconography (cf. Chs. 3, 4, 12) but occur here as small parts of a larger unique scene – The Ship Procession – rather than as scenes in themselves.

It must be immediately apparent that genre scenes can only be recognized if a sufficient number of examples has survived. Even when a great number of scenes comprising a known combination of elements exist – as in the paintings and reliefs of Egypt – it is not always easy to distinguish between a particular narrative or historical event and a generalized depiction of 'such events as these' continued in the minds of the people through the traditions of art. 'The King conquering his enemies' may be more of an idealized scene than a reality. Such a scene would then be a genre.

There is, in the Theran miniatures, a coalition between genre and event within a single group of paintings. The distinctions between them, and the ways in which they relate to one another to form a sequence with narrative content, will be discussed in the following chapter, The West House Theme. Before such distinctions can be made, the genre scenes inherent in two of the paintings should be discussed. On the East Wall, the theme of cat

chasing bird within a specific landscape constitutes the first of the genres. On the North Wall, the combined themes of shipwreck near the coast and a line of marching warriors constitutes the second.

A. The Landscape: an Aegean 'Nile scene'

The Landscape painting contains the genre scene of cat chasing waterfowl within its central theme of hunting in an aquatic landscape (Pl. 181; Col. pl. B). The artist has added elements from other contexts to reverberate and particularize the idea behind the genre. The griffin chasing the deer echoes the theme of cat and its prey; the variety of plants gives substance to the setting.

The inspiration for the genre itself can be traced to Egypt.¹ But in the transference from Egyptian to Aegean art the genre undertook a radical shift of emphasis and an abbreviation of content. The wall painting illustrated in Pl. 187 (now in the British Museum) provides a useful comparison. The painting is dated to the mid 15th century and is thought to be from the Tomb of Nebamun at Thebes.² This fowling scene repeats a well-known formula of both royal and private tomb paintings. The chasing of birds within a papyrus thicket was one of several sporting activities represented in paintings, frequently in close juxtaposition to one another on the walls to emphasize their relationship. Three of these sports took place on the river: the hippopotamus hunt, the spearing of fish, and the catching of birds.³ The setting is simple: a river and papyrus thicket and sometimes reeds. Associations between plants and animals were as important to Egyptian artists as to Aegean, and the particular birds which are shown to be hunted nest amongst papyrus (the nests with their eggs can be seen in Pls. 187–8).⁴ Yet this particularity of fauna and flora is

problematic. For the scenes were first portrayed in the Old Kingdom and continued throughout the Memphite dynasties of the Middle Kingdom, when, in spite of a great deal of stylization and repetition, they had their origins in real events which took place in the papyrus thickets of the Delta. Later, in the New Kingdom, the same scenes are repeated in the tombs of Thebes. We have then to ask whether the kings and noblemen with their families and entourage travelled down the Nile all the way to the Delta simply for the pleasure of the hunt; or whether the scene had simply become a stock genre for Egyptian artists.⁵ Some truth probably lies in both alternatives: fowling may have continued as a rarified sporting activity, but the artists are more likely to have familiarized themselves with the environmental details through traditions of art than from actual trips to the Delta.

This abstraction of the particular into a general idea differs from the approach of Aegean artists in handling transformation of a visual format. For them each change made to the basic genre constitutes a logical step towards transferring the scene into the Aegean so that it is comprehensible in terms of the local setting.

In the Theban painting of Pl. 187 the nobleman stands on a river boat with his wife and daughter nearby. It is a family outing (a privilege reserved for those of high rank sometimes accompanied by their servants) in which the man displays his skill in catching birds amidst the papyrus thickets. He is helped, in a subsidiary capacity, by a cat, one of the few elements which was added to the scene at a later date, probably at the beginning of the New Kingdom in the 16th century.⁶ The real hunters are the people. Yet this vital emphasis is entirely rejected when the genre scene is transferred to the Aegean. Man's use of trained domestic animals as hunting aids in sport is there superseded by the natural hunting prowess of the animals themselves within their habitat.

Only four elements from the Egyptian scene are common to the Aegean examples: the cat, the bird, papyrus as an abbreviation of riverine setting, and sometimes the river itself. The scene has lost its grandeur. No longer is it a means of extolling the virtues of a powerful man; in reducing it in scale, the painter has naturalized the scene, for now the cat and bird are the protagonists. Partly this new emphasis could be explained by the fact that using cats in the Nile bird-hunts was fashionable precisely at the time Aegean artists adopted the genre (MM III/LM I). But, more importantly, this is the only aspect of the hunt that can stand on its own without the intervention of man. Cats, whether domestic or wild, naturally chase birds.

The Theran Landscape painting is the fifth known example of the genre in its Aegean setting. It appears to be

the most ambitious, although no other in large-scale is as well preserved.

In wall paintings the theme of cat and bird occurs twice on Crete – at Knossos and Ayia Triada – probably contemporary with the Theran painting. Only two fragments of the Knossian example survive: one showing the tail of a bird, the other the head of a cat (Pl. 184). The cat faces towards the left; it has rounded ears, an oval eye with a white patch, and yellow fur with white spots. The bird (whose tail alone survives) is facing in the same direction.⁷ The two fragments were found together in one of the heaps on the north border of the Palace, and Evans assumed that they belonged to the same composition.⁸ Cameron has questioned this on the grounds that they are not by the same hand.⁹ Yet style can be both subjective and misleading (it is quite feasible for more than one artist to work on a single wall painting) and here the context of the finds, the relative scale and the subject-matter suggest a relationship.

The fragments from Ayia Triada add more to our understanding of the theme (Pl. 182). The cat prowls silently towards the unsuspecting bird. (Fragments of two more cats have survived.)¹⁰ The basic elements of the Nile genre are there but in this early transference of the scene Cretan indigenous species have largely usurped those of Egypt. There is no evidence of a river, the landscape is rocky, the predominant plant is ivy, the bird may be a game bird and in other related fragments two deer complete the sense of a Mediterranean forest land (Pl. 183).¹¹ As in the Theran painting, the creatures move in the same direction. The inclusion of large animals in the genre (not an Egyptian feature) occurs only in this Cretan painting and in the Theran Landscape, where deer and griffin gallop incongruously along the river banks. Their inclusion in the latter is discussed in the following chapter, for they act in relation to their companion wall paintings somewhat as a literary conceit. The Ayia Triada fragments show the genre transformed into a Cretan setting; yet a vestigial element from the Nile scene in the form of papyrus plants (behind the deer) betrays part of its origins. Papyrus can grow on Crete (pp. 21, 24) and therefore could have been incorporated into a Cretan scene, but here the artist has misunderstood its environmental associations and made it into a rock plant rather than a river or marsh plant.

For all the transformation, the theme remains. Yet now it is the cat that is central to the theme. The artists have observed the animals, for they portray the forward pointing ears which signal aggression (Pls. 181–2) and the accurate movements of limbs in a prowl. The cats are even distinguished one from another, that in the Ayia Triada painting being monotoned rather than spotted and with differently shaped muzzle and eye from others

of the genre. Clearly, the scene is not an iconographic copy but a reinterpretation of a basic theme with adjustment of emphasis.

The energetic but formalized depiction of the genre scene in Pl. 185 occurs on the two sides of an inlaid dagger blade from Shaft Grave V at Mycenae. With its long winding river it bears a striking resemblance to the Thera painting. As so often in the Thera miniatures, iconographically the Mycenae Shaft Graves offer the closest parallels but in attitude the paintings have more in common with Minoan Crete. Thera stands literally and metaphorically as a half-way mark. The elements of the Nile scenes which can be recognized in the Thera painting – cat, waterfowl, papyrus, river – are all on the dagger blade. In fact, if we add the fish swimming through the river we can say that the elements are *only* those of the Nile scene; abstracted, distilled and stylistically altered but with nothing added of an indigenous nature. This is in direct contrast to the Cretan scenes and in partial contrast to the Thera scene which includes these elements while adding some of its own (palms and other plants, griffin and doe). Equally important is the different attitude towards time inherent in the scenes. In the Ayia Triada painting the cat concentrates every muscle on its prey *before* the actual moment of attack, the bird is not yet aware of the danger. The same appears to be true of the Knossos example. This moment of the drama – the moment of anticipation rather than the attack itself – is characteristically Minoan, is used at Thera, and contrasts with the Mycenaean preference for showing the moment of attack itself.

The same applies to the other Mycenaean example of the genre, on an ivory comb from Rutsi near Pylos shown below in Pl. 186. Just as there were close points of contact between the two Cretan examples, so there are with the two Mycenaean examples. It is the same moment of drama (the attack) and the same distillation of elements here taken to an extreme (landscape is now indicated merely by lines and the river merely by the intervening space), the birds are again waterfowl and there are two cats to each scene in spite of the fact that in reality cats hunt singly. The mainland examples are less observed, more formalized, more distinctly genre than their Cretan or Thera counterparts.

Nevertheless the dagger blade, in particular, has in common with the Thera painting the essential Egyptian elements of the genre: waterfowl, river and papyrus. Without these there would have been no genre to begin with, for in all cases it is the birds which are the object of the chase (whether by man or animal) and the natural habitat of waterfowl is of course water and its associated plants.

The wall painting in Pl. 188 from the 15th-century

Tomb of Nakht at Thebes brings the genre scene and the importance of the birds into perspective. In its Egyptian context it is not an isolated scene in the way that it became in the Aegean but is part of a sequence showing methods of obtaining food for the owner of the tomb and his wife (seated on the left in both registers). There are two methods of catching birds. At the top is the fowling scene on which our theme is loosely based. A boomerang is thrown to scare the birds out of the papyrus thickets ready for their capture by human hand or feline accomplice; here man encroaches on nature. At the bottom is another scene in which a net has been thrown over the birds for their mass capture. This net scene frequently takes place on an ornamental pond where the geese and ducks are naturalized. The two methods of catching fowl achieve the same end, but the first is sport, the second technology.

A fragment of a mallard duck from Xesté 3 was published by Marinatos and described by him as part of a scene with ducks flying amongst reeds and smaller birds caught in a net.¹² This would make it the first representation of the net method known in the Aegean and would bring aspects of both scenes of bird-catching familiar to the Egyptians within the range of the Thera artists. But we must await full publication of the Xesté 3 paintings.

As waterfowl live on rivers and ponds, feeding off aquatic plants, it is natural that they should be iconographically linked with such an environment. In the hunt – for food or for sport – it is necessary to know the habitat of the prey. Papyrus is the one plant which accompanies the genre throughout. Yet far from forming the luxuriant thicket of Egyptian paintings, in the Aegean examples (the Thera frieze in particular) it is relegated to sparse clusters consisting of no more than a couple of strands. If papyrus is necessary for the particular genre represented, it is not the most prevalent of Aegean riverside plants; thus the ubiquitous reed appears as an alternative abbreviation of waterside in Aegean iconography. In the full examples of the genre scene reeds occur only in the Thera painting, amongst a variety of riverine plants including papyrus. But a number of seal-stones and other media express the basic association of birds in their habitat in what appears to be an abbreviation of the same theme.

The two fragments of a large clay vessel from Phylakopi in Figs. 47 and 48 show scenes which could well have come from the walls of Thera. On one a waterfowl gazes towards the right, his head overlapping reeds. The dark area in the upper-right corner of the fragment may belong to the body of another bird; more reeds continue to left and right. On the other fragment the body and neck of a bird face towards the left, standing amongst large stylized papyrus. The bird has a wide ring around

the neck, similar to that of the Thera bird in Pl. 181 (92). The papyrus plants bear a striking resemblance to those of the House of the Ladies painting at Thera (Pl. 26), and those of the Mycenae dagger blade (Pl. 185). The clay fragments are contemporary with these examples, and the very close comparisons of theme and detail emphasize the relationship between artists working in the Aegean at this time.

This abbreviation of theme – waterfowl in their habitat – also occurs in the miniature fresco fragment from Katsamba of bird and reeds, thought by M. Shaw to represent the design on a woman's dress.¹³ On sealstones, waterfowl (often, like the plants, in a group of three) are again associated with reeds (above, p. 65 n. 251) or papyrus (Fig. 46).

Though the river is implicit in the riverine flora, only occasionally does it actually appear (above, pp. 34–5). A 'Mistress of Animals' on a seal in the British Museum holds a waterfowl in each hand, elbows bent and hand raised (Fig. 50).¹⁴ A river undulates beneath her. Both posture and theme afford comparison with the 'Master of Animals' pendant from the Aegina treasure (Fig. 49). There, the male figure (elbows bent and arms raised) holds a goose in each hand and stands not on the river itself but on a small boat crowned with lotus flowers. Higgins has pointed to the relationship between this pendant and Egyptian fowling scenes (cf. Pls. 187–8: man on a papyrus barque holding up waterfowl (elbows bent) amid papyrus and lotus plants).¹⁵ Thematically, the Aegina pendant is unusual in that it employs the main element of the Egyptian version of the genre: the man. Otherwise, the subject of the Aegean genre is, as we have seen, the cat as hunter of the birds.

The three sealstones in Figs. 25–7 distil this particular aspect of the theme. In Fig. 25 a feline chases a bird amidst stylized plants common to glyptic work. In a typically Minoan choice of moment the cat, in flying gallop and with tail raised, has not yet attacked the bird who remains unconcerned as he pecks his wing. The poses of the two protagonists echo those of the cat and bird in the Thera painting (cf. Pl. 181). The theme continues in somewhat confused format in the seals of Figs. 26 and 27. In both of these, at least one of the birds has become entangled with the drawing of the cat. Thus wings appear to emerge from the back of the cat and a beaked head hovers above the reduction of the feline head. The head of the bird is in both cases that of a waterfowl rather than a bird of prey, and the body of the feline is that of a cat not of a lion; yet the memory of Aegean griffins is surely not far away. Such iconographic reverberations in Aegean art have a complex structure only gradually revealed. The Thera Landscape frieze provides a rare opportunity to study such repetitions and

abstractions of theme. The examples cited above have various combinations of elements which reflect the same theme of riverine life; only in The Landscape painting do all these elements – papyrus, reeds, river, cat, bird (and cat–bird) – come together.

The genre scene occurs in the varied media of wall painting, sealstones, and inlaid metal. In each case the individual scene is adapted to suit the medium. Thus the inlay, like the frieze, has a central horizontal focus – the river – along which the action takes place. The group of hunter/hunted is repeated at two points along the line and the vegetation accompanies them throughout. On sealstones abbreviation of content is essential: the birds either gather peacefully in their natural habitat or are abstracted from their environment and paired with the hunter. The history of the genre in the Aegean is brief, the main examples falling within the period MM III–LM/LH I–II.¹⁶

In The Landscape frieze this genre scene provides the pivotal idea behind the dominant theme of the riverine chase. Yet it is apparent from the preceding studies of individual floral and faunal species that the painting is not limited to this one idea. The griffin, palm trees and sedges are species which do not occur in any other known example of the genre, whether Aegean or Egyptian. These differences establish the painting's iconographic independence from the Egyptian genre model and also suggest that further ideas have been added to the basic Aegean genre.

The griffin and deer reiterate the theme of the hunt expressed in the genre scene of cat and waterfowl. As we shall see in the following chapter, their inclusion in the frieze is partly a means of relating this theme to those of the paintings on the surrounding walls. They are not part of the genre as we know it, but additions to it.

The painter has created a more complex scene than the genre on its own would offer. The inclusion of the palm trees has provided a specific environment for the enactment of the drama. This is neither a typically Mediterranean landscape, such as the painter of the Ayia Triada painting tried to show, nor an abstraction of a Nile scene such as the inlaid dagger shows. It remains true to the exotic flavour of the south, while bringing it into the realm of probability for the Aegean eye. Sedges and reeds are plants which grow naturally in Aegean lands; palm trees and papyrus, on the whole, are not. Therefore the artist has carefully shown that these have been introduced into the environment. The papyrus grow singly rather than in natural clumps. The palms, as we saw in Ch. 2, are cultivated and have been planted along the banks of the river. So it was suggested that The Landscape represents an orchard, garden or park (pp. 39–40) with a combination of native and imported species

planted within the Aegean. If the action suggests life in the wild, the environment is domestic.

There are, then, two basic ideas incorporated in The Landscape frieze: (1) the hunting genre of cat and waterfowl; (2) the cultivation of plants. The connecting element is the river. The genre originated as a river scene, and was associated with riverine plants. Imported and transformed, it still retained these essential aspects, for no waterfowl could be found without water and its plants. Equally, for the importation and cultivation of plants irrigation is necessary; no garden can survive without water, and where there is water there are likely to be waterfowl. The artist has made no mistakes, the plants are all riverine. The palm trees, which although planted in southern gardens would also have grown naturally along the Nile where the scene originated, have here been domesticated. The theme of fowling, which began as a domestic outing with a tame cat, is now a scene from nature. Wild and domestic have been reversed in accordance with the realities of the land in which the images were produced. The painter of The Landscape has given a particular interpretation of a scene inspired by the Nile but transformed into the Aegean.

B. Shipwreck and Warriors

The scenes on the North Wall (north-east half), Pl. 189, comprise another genre, the components of which are: (a) ships on the sea and drowning or swimming figures; (b) warriors on the coast either marching or fighting. The former is always placed in a zone below the latter and the spectator views the scene from the sea in close proximity to the action.

The scene poses many problems in interpretation, not least in how to read the connections in space, for the action does not appear to be unified. In the Thera example, six or possibly seven groups of action are shown simultaneously, yet they are not necessarily intended to be read as occurring at the same time on the same piece of ground. If they were a unit it would be hard to explain the complete indifference of each group to the action of those surrounding them. It is this problem which should be held in mind when considering the other examples of the genre to which the painting belongs. The extreme diversity of interpretations of the most famous of these, the Mycenaean Siege Rhyton (Pls. 191–2), may arise from too narrow a conception of time and space in Aegean iconography and too literal a reading of places and events.

There are few extant examples of this genre in its totality but reflections of it can be seen in a number of representations. The Thera painting contains the following components: (1) ships; (2) drowning/swimming

figures; (3) marching warriors; (4) a settlement; (5) men and women villagers; (6) animals. Those scenes from Aegean art which seem to represent or reflect the same theme will be viewed in terms of these components.¹⁷

From Knossos, an early work related to the theme may be seen in the Town Mosaic.¹⁸ Pl. 190 shows some of the faience plaques published by Evans, but here they have been rearranged so that the various elements correspond to the usual zones of such a scene. From the top there are: the buildings of a settlement (cf. Fig. 53); two fragments of trees; goats; standing male figures belonging to two separate areas (two fragments, each showing a leg and a staff, continue the dotted background belonging to the goats; four further fragments have a plain background); finally (placed in the lowest zone in Pl. 190), a number of figures with arms and legs askew may represent drowning or swimming men, a supposition strengthened by the stylized 'waves' of a further fragment.

In recent years, some scholars have denied the connection between the Town Mosaic and the Siege Rhyton which Evans proposed.¹⁹ Not many of the elements are comparable: no fighting occurs in the mosaic, no animals in the rhyton. But Evans perhaps had second sight, for the discovery of the Thera painting vindicates the comparison, if not his conclusions. Evans' description of the plaques runs as follows: the central feature consists of the towers and houses of a fortified town around which were 'trees and water, goats and oxen, marching warriors, spearmen and archers, arms and equipments, the prow apparently of a ship, and curious negroid figures'.

Clearly, while the elements have only three things in common with the Siege Rhyton – drowning figures, warriors on land, a settlement – they have a great deal more in common with the Thera painting. Unfortunately the prow of the ship which Evans identified is too fragmentary to be verified.²⁰ If it is a ship, which I doubt, it is unlike those of the period. The 'eye' painted on the 'prow' is merely a circle with central dot, rather than an oculus (which is, in any case, a feature of later Greek galleys rather than of ships of the Bronze Age). Nonetheless, the figures thought to be in the water offer a close comparison for both the Thera figures and those of the rhyton: arms above the head with elbows bent, legs apart with knees bent and feet relaxed. The warriors on land combine characteristics of both scenes. The position of their legs suggests marching rather than fighting (as at Thera); at least one fragment suggests a helmeted head but otherwise the figures do not wear armour though a fragment of a bow²¹ recalls the equipment of the Mycenaean scene. The warriors (if that is what they are) face in both directions (cf. Mycenaean). Animals are present in the mosaic and the painting but do not appear in the Mycenaean rhyton. The male figures with staff are pre-

sumably shepherds leading their flock of goats (note the background associating the two) just as in the painting (Pl. 82). A fragment of a bull's foot was also reported.²² From Thera, the unpublished fragment representing two bulls probably came from the area to the right of the remaining scenes. Trees and buildings are common to all three examples.

An important factor is the way in which these recurring features interact to form a scene. The fundamental difference between the Town Mosaic and Thera painting on the one hand and the Siege Rhyton on the other is one of drama. In all, dramatic action takes place in the sea, but only in the Siege Rhyton does conflict occur on land; in the other two the dramatic action of the fight is implied by the appearance of the warriors, but a peaceful moment is chosen for the scene, one which may anticipate the action but is not yet in the midst of it. This differentiation is the same as that in the examples of the cat and bird genre: the Minoan and Thera artist chose a moment of time prior to any violent action, while the Shaft Grave artist chose the moment of climax. In the one the action is implied, in the other realized.

The comparison with the Town Mosaic is therefore valid, but the differences between these related scenes should act as a warning against too rigid an interpretation of their meaning. Evans saw the mosaic as a siege scene set at 'some Minoan overseas foundation of the Libyan shores'.²³ But just as Marinatos' Libya theory was based on injudicious use of evidence, so was that of Evans. The 'curious negroid figures' have little but dark skins to identify them with southern people, and nothing in the buildings, vegetation or animals suggests anywhere but the Aegean.

The Town Mosaic is the earliest of these scenes. Evans dated it to MM IIb, assuming that it was an heirloom from the Sanctuary of the northern border of the Loom Weight Basement, but it was found in a MM IIIa fill deposit so that the stratigraphic conditions are not conclusive; it cannot, however, be later than IIIa. The scenes were probably not zoned in the way in which I have shown them in Pl. 190; this was done merely to facilitate comparison. The plaques may have been inlays for the panels of a wooden box. As a tentative suggestion: it could be that the mass of tiny buildings covered the top of the box, while the four sides contained (1) trees (and waves?); (2) pastoral scene of goats and shepherds; (3) warriors; (4) drowning figures (and waves?). The concept of uniting several small scenes is present, however, whether they are divided into panels or into zones.

From the mainland there are two certain examples of the genre, both offering close comparisons with the Thera painting. Pls. 191–2 (and the details in Pl. 119) illustrate the Siege Rhyton from Shaft Grave IV,

Mycenae.²⁴ Pls. 193 and 194 show two fragments of a carved stone vessel from Epidauros. The top fragment has frequently been compared with the Siege Rhyton,²⁵ the lower fragment has only recently been discovered.²⁶ Shaft Grave IV is usually dated to LH I and the rhyton should therefore be contemporary with the Thera painting. The Epidauros vessel has been dated to LH III²⁷ but in view of the Thera paintings and the Siege Rhyton this should perhaps be updated to LH I or to LH II at the latest. Not only the iconography of the scene but the technique of stone relief carving belongs to the earlier period.

The accidental survival of both scenes in the form of two main fragments, one from the upper and one from the lower zone, serves to highlight the fact that two points of action are combined to form the genre. Above are the warriors and the coastal settlement, below are the shipwrecked sailors. In no case do the warriors on land appear to be aware of the sailors in the sea. It is mainly for this reason that I doubt the unification of event which is assumed by most writers on the subject.

The various representations of this theme are not entirely consistent with one another. The Thera painting has some elements in common with each of the examples, and they with one another, but in no case do all the elements match. It is impossible to tell whether there was a settlement above or to the side of the marching figures on the Epidauros fragment (Pl. 193). Equally, it is conceivable (though doubtful) that to the side of the settlement on the Siege Rhyton animals completed the scene. *E silentio* arguments must, on the whole, be avoided. Of the existing fragments, the scale pattern representing 'the sea' along the lower section of the rhyton (Pl. 192) matches that of the new fragment of the stone vessel (Pl. 194). The more naturalistic depiction in the painting lacks the distinguishing scale pattern, the sea here being indicated by the seaweed motif (cf. pp. 35–8). Yet the sprawling figure on the stone vessel compares well with the two men plummeting downwards in the Thera painting (Pls. 139, 189), and though the ships in the two scenes travel in different directions the prows are of the same shape and relative size.

Much the same applies to the upper zone of the three scenes from Thera, Mycenae and Epidauros. For none are identical and yet each can be shown to have characteristics of both the others. In the Thera and Epidauros scenes there is a line of warriors marching uphill along the coast towards the right. They are bare-footed and their shields or garments (it is unclear which on the stone fragment) reach to just below the knee. The skirmish of the Mycenae fragment is not apparent. On both the Mycenae and Epidauros fragments a third zone of action lies between the sailors drowning in the sea and the

warriors on the coast: that of warrior-sailors arriving at the coast from the sea. One figure approaches from the right, facing left, other figures approach from the left (surviving only as the tops of helmets on the Mycenae fragment). A pole (or spear?) is used as a punt by the helmeted figure on the rhyton; a pole or spear is carried by one of the figures on the stone vessel and is held upright by the sailor on the prow of the Thera painting. The knee-length shield is worn by three of the figures on the rhyton,²⁸ at least one of whom holds a spear in front, as in the painting. The men arriving from the sea on the stone vessel wear something similar, though only the tops survive. On both the Mycenae and Epidauros fragments club-shaped and spherical objects (identified by Sakellariou as weapons)²⁹ float disconnectedly in space between the zone of sailors arriving from the sea and the warriors on land.

Perhaps most strikingly, both mainland scenes contain elements which do not occur in the other examples of the genre but do occur at Thera: in *The Ship Procession* painting from the South Wall. These are, on the Mycenae fragments: the tiered tower-like buildings with male and female figures watching from the balconies and rooftops, and the peninsula jutting into the sea below (Pls. 191, 119 and 192);³⁰ and on the Epidauros fragment: the dolphin and what appears to be a stern cabin (right-hand corner, Pl. 193).

In the analysis of the motif representing 'water' (pp. 13–14 and 35–8) a similar process of association and assimilation was noted. The transference of ideas occurs between sites, between media, and even occasionally through time. How this mechanism works is uncertain. But we may imagine artists travelling, seeing the work of others, utilizing ideas and trying new combinations within the tenets of their time.

The association of elements is apparent even though all examples of the scene are incomplete. In the painting, the line of warriors may have been marching to a more specific destination than is visible. Immediately in front of the foremost warrior is the edge of a building (Pl. 145), indicating that the settlement continued. Three of the unpublished fragments probably belonged to the right of this: the forepart of a ship, a drowning figure, and two bulls. Equally, the action of the two mainland scenes cannot be continued to left and right, although the work by Sakellariou on the Mycenae rhyton has added some new information: a fragment with two warriors raising clubs has been joined to a fragment with figures stooping or falling to the ground,³¹ and further fragments of the town added to the left (Pl. 119). In the present state of preservation of the scenes, it appears that only at Mycenae do the protagonists actually fight. Here, then, is

an early example of the Mycenaean predilection for the imagery of warfare.

In the genre an association is formed between warriors and water. Although in its complete form the extant examples are limited to those from Thera, Mycenae and Epidauros, Mycenaean artists absorbed the theme into their repertoire in a number of ways. These are reflections of theme rather than the complete theme itself. Thus warriors associated with water are found in the paintings from Pylos in the Battle Scene of Hall 64, in the Tarzan Scene from the plaster dump on the north-west slope, and in the Hunters Scene of Room 43. In Hall 64 warriors wearing distinctive apparel fight in hand-to-hand combat; the ground is divided vertically into areas outlined by wavy lines which should probably be interpreted to mean 'river'. In two separate fragments, the upper zone of warriors stand fighting while in the lower zone they flounder and fall in death.³² The zoning of the figures in this manner is analogous to the zoning of the scenes referred to above. The conventional positions for the falling men are, in many cases, indistinguishable from the drowning figures of the earlier scenes. Thus the figure in the centre of fragment 22 H 64 has one arm bent and raised by his head, the other loose by his side, one leg slightly bent, the other pulled up at the knee. It is, admittedly, a less elegant rendering than the figures of the Thera painting, but the limb-movements are comparable (in particular in one of the unpublished fragments in the Athens Museum). The men in the painting of Room 43 are identified as warrior-hunters by their greaves and spears. Here they hunt rather than fight, but again the wavy lines separating the ground suggest a riverine setting.³³ From the north-west slope came fragments of men dressed in skins like those of some of the combatants of Hall 64.³⁴ Again a hunt is implied and the vertical wavy divisions suggest river. A parallel to this warrior-water theme survives in an LH IIIa pot from Melathria.³⁵ The warrior stands holding a club (or sword?) disconnected from his surroundings but framed by the divisions of wavy vertical lines which suggest a river.

For Aegean artists, sprawling figures indicating 'swimmers', 'drowning figures' or simply 'the defeated' comprised a common motif. The men on an inlaid dagger blade from Vapheio typify this tradition,³⁶ yet the isolation of such figures is rare, for invariably they are associated with warfare or warriors. Falling figures can be seen in the Megaron frieze from Mycenae³⁷ and in a closely related painting from Orchomenos.³⁸ Similarly, a sprawling figure in the lower centre of the silver battle krater from Shaft Grave IV (above, p. 107 n. 46) can be seen to represent 'the defeated'. He is the only figure who is unarmed. A serpentine fragment from Knossos echoes

the theme of the warrior and the sea (the latter identifiable by the scale pattern).³⁹ While the archer is actively participating in battle, the position of his legs is that of drowning or defeated figures. His clothes, hair, beard and even his profile make him virtually a replica of the defeated man on the krater.

It is easy to understand how the same limb-movements may be used for a man drowning in the sea or falling in battle. Yet the relationship is more than one of physical movement. For the sprawling figure is consistently in a lower zone than the standing warriors. On the krater it was observed that the defeated figure was bereft of armour and weapons. In the Town Mosaic, the Siege Rhyton, the Epidauros vessel, and also in the Thera painting, the figures sprawling in the sea are all naked. It is impossible to explain this in terms of swimming. The movements of the figures in the sea are far too expansive to keep the body afloat; they should rather be interpreted as the movements of one falling in a moment of defeat, like the figures beneath the battle on land. On the Epidauros fragment and in the Thera painting the ships relate the scene to one of shipwreck (in the painting this is emphasized by the snapped bowsprit, broken in the turmoil). The shields in the water identify the figures as warriors and the boat-hook floating nearby connects them with the ships. 'Nakedness' is surely a way of expressing defeat, be it by man or by sea.

In spite of the specific nature of this genre and the limited span of time and space (the main examples probably falling within 200 years), the iconographic relationships of water, ships, sprawling (naked) figures and warriors is not unique within the ancient world. The earliest example is on the Gebel-el-Arak knife handle illustrated in Pl. 195. This is Pre-dynastic Egyptian though both the figures and the stylized boats are Sumerian in character. There are four zones: in the upper two, warriors fight in hand-to-hand combat; in the lower two are boats and sprawling drowning figures. The posture is surprisingly familiar: one knee bent more than the other, one arm raised high. The format of naked sprawling figures lying beneath warriors is familiar in Near Eastern iconography from the third millennium (e.g. the Ur Standard) to the first. In Assyrian reliefs the figures invariably lie in water (the river or canal surrounding the city) comprising the lower zone of a siege scene.⁴⁰ Thus the drowning figures, warriors and buildings of the Mycenae rhyton are reiterated in the historical monuments of some 700 years later. Equally remarkable is the zoning of (a) ships and drowning figures below, and (b) a line of warriors armed with shields and spears marching above, which reappears in Greece during the Geometric period (Pl. 196). Such scenes are usually said

to be influenced by Near Eastern art⁴¹ but, as we have seen, the format was equally at home in the Aegean of an earlier period. Here is a startling example of an iconographic tradition extending over literally thousands of years through several different cultures. It is surely a comment on conservatism in art. For while these scenes almost certainly represented something different to each of the cultures which produced them – historical document, legend, or generalized statement – the basic format remained the same.

What did the scene contained in this format represent in the minds of Aegean artists? This question has been asked by all writers on the subject of Aegean 'siege' scenes, yet the very name given to such scenes begs the question. A siege is a means of holding the inhabitants of a town inside their walls, thus cutting off their supplies and forcing them to surrender. It is basically a passive form of attack requiring time, patience and a large contingent of warriors whose tactics involve encircling the settlement, possibly attempting to scale the outer walls. Fear of such means of attack was presumably the impetus for building the passages to secret underground water-supplies at the citadels of Mycenae, Tiryns and Athens.⁴² Fortifications and siege tactics, however, do not appear in the majority of the scenes considered above. Only in the Mycenae rhyton is there evidence of attack-*versus*-defence outside the walls of a town. A small group of warriors marching up a coast (Thera painting, Epidauros stone vessel) cannot be termed a siege.

It may be that these scenes depict coastal raids (or the moment preceding such a raid. The pastoral elements would then be relevant, for such raids frequently concentrate on the acquisition of livestock. Piracy has always played an important role in the lives of the coastal and island peoples of the Aegean,⁴³ as is reflected in the Homeric accounts of raids on coastal settlements.⁴⁴

By definition, such raids would be approached from the sea, which is a good reason for the association within the genre of the two elements of ships and warriors. However, the action in the scenes does not lend itself to the interpretation of a unified event. A narrative sequence describing a specific event would allow variation of format, whereas the structural constancy of the zoning of the scene into two main elements suggests that the genre typifies events. Such typification would be an account of the dangers of the sea from the point of view of a maritime people: the dangers being the sea itself – shipwreck – and the arrival of pirates from the sea – coastal raid.

If interpreting the scene has proved problematic, locating it geographically has been more so, and the search for an identity for the people has elicited a number of diverse

interpretations. Evans considered the Town Mosaic to be set in Libya (above, n. 23). The Mycenae Siege Rhyton has conjured similar reactions. The buildings on the rhyton are usually thought to be Minoan in character, the helmeted warriors Mycenaean, and the naked fighters 'barbarians' from a distant land. Some writers have attempted to localize the event on the basis of these observations, the eastern Mediterranean being the area most frequently evoked.⁴⁵ Even when a geographic location is not specified, the ethnic identity of the town is still thought to be identifiable. Some scholars consider the town to be a Minoan colony defended by Cretan–Mycenaean troops against a 'barbarian' attack.⁴⁶ Others see the event from the opposite angle, as a 'barbarian' town being defended by the occupants against a Mycenaean attack.⁴⁷ Sakellariou has similarly argued that the Epidauros relief depicts an expedition of Mycenaean against the indigenous people of a coastal settlement in the East Mediterranean.⁴⁸

Interpretations of the Thera painting are equally diverse. Marinatos viewed the North Wall scenes as part of the 'Libyan expedition', according to his general theory. The land is said to be Libya, the figures in the sea 'bad Libyans' who had perished after annoying friendly Aegeo-Libyan towns. Stucchi largely follows this interpretation though he considers that soldiers and drowning figures are on the same side, defending a Minoan settlement on the Libyan coast. Hopefully the comments in Ch. 5 above were sufficient to cast serious doubt on the validity of this hypothesis.

Warren, like myself, locates the scene in the Aegean, but further specifies national identity: the land is taken to be Cretan, the defenders Minoan and the attackers Mycenaean.⁴⁹ He thus, in the tradition of writers on this genre, seeks to particularize the event and the participants.

Sakellariou was the first to consider the Thera painting as an example of the genre scene to which it belongs.⁵⁰ She describes the painting as part of an iconographic cycle representing an expedition to a foreign country (thereby making no apparent distinction between the friezes). However, she concludes that while the Mycenaean examples of the genre – the Siege Rhyton and the Epidauros vessel – represent activities of war, the Cretan and Cycladic scenes – the Town Mosaic and the Thera painting – portray city life during peacetime. In this way, the Thera frieze is interpreted as a peaceful Minoan expedition to a foreign country. At the 1978

Thera Congress her interpretation of The Ship Procession frieze was redirected to that of a nautical festival, thus concurring with my own interpretation.⁵¹ To this was added the further suggestion that the armed warriors constitute a guard of honour and the figures in the sea are swimmers displaying their skill in a ceremony connected with the festival. The underlying assumption, therefore, is that the paintings on the North and South Walls show scenes from the same nautical festival. Her theory is attractive as it would conveniently unite the events of the miniature paintings, but there are problems. The shields in the sea are seen by Sakellariou as having been thrown into the water in a ceremonial act connected with the festive activities. Yet this idea takes no account of the boat-hook similarly floating in the water, nor of the broken bowsprit of one of the ships which clearly signals wreckage. Neither does her theory allow for the contrast between the genre nature of the North Wall scenes and the specificity of the event shown on the South Wall.

Warren is correct in criticizing Sakellariou's interpretation on the grounds that the scene belongs to a clearly definable genre type (he, too, lists comparisons).⁵² For if the components represent something in the nature of a coastal raid and shipwreck on one example, they are unlikely to represent a guard of honour and swimming display on another. The connotations of the scene may vary subtly between examples, yet a complete transference of a genre scene whereby the same iconographic elements are utilized to an entirely different end is implausible. No interpretation of a genre scene is acceptable unless it could be applied to all examples. Even then, the interpretation is incautious if too closely defined in terms of location, identity or particular significance. For the genre scene (as Vermeule and Hooker have both argued)⁵³ is surely an image which is used not to represent a particular event but to express a fundamental idea through traditional imagery.

A genre scene is part of the stock repertoire of contemporary artists which may be used either as an entity in itself – as it is in the relief carvings under review – or in juxtaposition with other scenes to emphasize a connecting theme. It is in the latter way that the Thera example of the scene is incorporated into the miniature wall paintings: in juxtaposition with The Ship Procession, it expresses aspects of the maritime theme contained within the West House. This purposeful use of the genre should be clarified through the analysis of the overall theme which is put forward in the chapter following.

12

THE WEST HOUSE THEME¹

For all their diversity, the West House paintings are unified in theme. There can be little doubt that the decoration of the two rooms was pre-planned in its entirety and executed with each part in mind. The purpose of this chapter is to demonstrate, as far as possible, the intention of the artists of the West House in creating such a scheme.

A brief comment on terminology is necessary at this point. Theme, as it is used here, is not necessarily synonymous with subject. Although the two may be synonymous in the descriptive imagery of an isolated painting (the portrait, landscape and still-life of western art are good examples), a group of wall paintings in close proximity may (like the medieval triptych) present different subjects which are nonetheless encompassed by a central theme. It is up to the iconographer to distinguish between the seemingly random and the significant juxtaposition of images.

A broad example is provided by the registers of scenes in Egyptian wall paintings and reliefs in which the several activities of the tomb-owner during his life are juxtaposed with stages in the ritual journey of the dead to the underworld; the connecting theme in this case is the milieu of the particular individual, life and death coalescent in the hereafter. Context is, therefore, of vital importance in the understanding of theme. Thus, while the fowling scenes reviewed in Ch. 11 have been studied extensively by Egyptologists as an individual genre, consideration of the ways in which the subject was utilized in the schemes of tomb decoration would add further dimensions to its meaning. The fowling scene in the Tomb of Nakht illustrated in Pl. 188 may serve as an example. It is a recognizable genre, comparable with that illustrated in isolation in Pl. 187. But only by viewing the wall as a whole can it be seen to belong to a group of scenes representing methods of obtaining foodstuffs (fowl, fish and vine-produce). In the lower scenes

workers catch, prepare and present the food. In the upper scenes the nobleman and his family are themselves depicted in the sport of fowling. The end-result is the same in each case, for the captured birds join the piles of produce presented to the deceased and his wife on the extreme left. This is the context of the scene on the wall, but it has a further context within the tomb. The surrounding walls of the chamber are decorated with, on the east wall, a series of agricultural scenes (ploughing, digging and sowing); on the west wall, north side, the scenes of fowling and viticulture in Pl. 188 and on the west wall, south side, geese and flowers presented to the dead man and his wife who are played to by musicians. Nakht was a scribe of the granaries, and the paintings of his chamber present as a theme the relevance of wild and cultivated produce to his work and leisure.

Egypt is rich in the preservation of complete sequences of paintings. Unfortunately quite the opposite is true of the Aegean. Many of the wall paintings which have survived are tableaux with apparently simple subjects. The majority of those from Thera fall into this category: The Spring Fresco, The Boxers, The Antelopes, The Blue Monkeys. Of the more complex scenes, few are well enough preserved for the context of related fragments to be understood. The extraordinary paintings of Xesté 3 have a wide range of subject-matter, and when they are fully published and the fragments are pieced together in context they will be invaluable for the study of theme. But, for the moment at least, the West House offers the most complete sequence of paintings yet discovered in the Aegean. Room 4 can be reconstructed virtually in its original scheme. In Room 5, the reconstructed South Wall lacks only a few details; the East Wall is approximately two-thirds complete; the North Wall, while only partially preserved, contains complete scenes; and only the West Wall remains a mystery.

During the present study, the paintings have been considered from two viewpoints. In the first part, categories of elements were analysed individually across the paintings. In the last two chapters individual paintings were considered in terms of subject or theme. It should now be possible to demonstrate the connections between the elements and the subjects, connections which emphatically build up the unifying theme. This will be done by considering the paintings as a whole, moving in sequence around the walls. At this stage, it is important to be aware of the distinction between genre scenes and the depiction of specific events, for only by understanding the relationship between them can we answer one of the most important of questions: do the miniature paintings constitute narrative sequence, or are we dealing with separate images encompassed within a pervading theme?

The North Wall

(Upper Zone): The Meeting on the Hill and The Pastoral Community

The Meeting on the Hill depicts an event, unprecedented in iconography. The processional grouping of the figures, the long garments and the votive gestures all indicate a ritual. The geographic position is specific: the hill is located near the coast. There is nothing accidental about the meeting, therefore time is specific. Such a meeting must have a purpose, and although little here indicates the significance of the occasion, there are hints in the adjoining scene and in *The Ship Procession* which will enable us to interpret the need for this particular ritual.

The high location of the solemn gathering suggests a sanctified area in the nature of the Minoan peak sanctuaries.² These were, of course, part of local Cretan cult, for although large numbers have now been discovered throughout the island, it is usually stated that no conclusive examples of the period exist from elsewhere.³ Bintliff, however, contends that a number of Mycenaean sites had summit shrines. A few, in Laconia, Messenia and Argos, belong to the Middle and early Late Bronze Age, though the majority (including some on the islands) are of LM III.⁴ There is, indeed, no reason why high places should not have been revered and sanctified by the inhabitants of the smaller islands or of the mainland in the period under review, particularly at those sites which felt Minoan influence. It may be that their identification has proved elusive because the nature of the cultic remains differed from those of Crete and were perhaps impermanent, or even that the place was considered sacred without the need for cultic paraphernalia. Caskey has suggested that the 'watchtower' structure on the small hill of Troullos near Ayia Irini on Kea may have incorporated cult practices with regard to weather,⁵ and

Doumas has found Bronze Age remains on the top of a hill a few hundred metres to the north-west of the site of Akrotiri.⁶ It may be that in time more conclusive evidence will appear for the use of hill-tops as cult places within the Cyclades. Meanwhile, let us look more closely at the details of this painting for clues which might support the identification.

The question we must ask first is: what did a peak sanctuary look like? There are remarkably few representations of peak sanctuaries for comparison. The mountain shrines on the Zakros Sanctuary Rhyton (Pl. 117) and on a fragment of another stone vessel from Knossos⁷ show a tripartite façade with horns of consecration, an edifice of some importance for a rural shrine.⁸ Glyptic scenes frequently show votive figure(s) in front of an altar or shrine, sometimes accompanied by a divine personage. The location is usually ambiguous, but on the Knossos ring-impression in Fig. 28 a mountain-top is certainly intended. From A 1 at Thera, the fragment of wall painting illustrated in Pl. 25 depicts monkeys in a hilly landscape worshipping at a shrine comprising a stepped base supporting horns of consecration with a papyrus-column nearby.

Yet in the miniature painting there is no temenos, altar or sanctuary at the top of the hill: the figures meet on natural rock. Shaw has suggested that tripartite shrines may have been of impermanent manufacture, erected only for certain seasonal celebrations.⁹ We may imagine that celebrations of a different nature did not require such shrines. A built structure is not, after all, a prerequisite of a sacred area. On Crete, peak sanctuaries were in use from at least LM III–MM I: enclosures and shrines were erected at this time, but sanctuary buildings were rare before MM III and were then short-lived.¹⁰ If a sanctuary had no built structure it would be known to us only through the remains of votive offerings. These too are missing in the painting, but are they essential to a hill-top ritual? Rutkowski notes that 'with very few exceptions, no objects from the time following LM I have been found in the peak sanctuaries'.¹¹ From this he concludes that 'from LM II onwards, fewer pilgrims came to worship the gods on the mountain tops'. Yet, as he points out, pilgrim visits during the period LM I–LM III did not entirely cease, as a few remains indicate (from Juktas in particular).¹² It has been argued that the male Zeus worshipped on mountain-tops in Classical times replaced an earlier female mountain divinity of the Minoan age.¹³ Today the large number of chapels perched high on mountains named Profitis Elias bear witness to the survival of belief in the sanctity of high places.¹⁴ It seems unlikely that so strong a tradition could have vanished for several hundreds of years before reappearing unscathed in a different guise. Almost certainly this was

not the case, and certain hill-tops continued to be thought of as sacred during the Late Bronze Age though without the accoutrements of the earlier cult.

This, at any rate, is suggested by the Thera painting. For here we have a ceremonial event taking place on a hill-top but without evidence of the material associations that archaeologists would expect to find. In what ways, then, does this unique scene throw light on the cults of peak sanctuaries? To answer this question we need to view the North Wall scene as a whole, in order to see the context of The Meeting on the Hill.

The meeting takes place not on a high mountain but on a hill-top near the sea. This agrees with the evidence of Cretan sanctuaries, which occur most commonly in the lower zones of evergreen vegetation rather than in the higher mountainous regions, the average altitude being 400–800 m.¹⁵ When such sites are associated with coastal communities, the hill can frequently be seen from the shore: as, for example Traostalos at Kato Zakros, and the small hill of Petsofa (alt. 215 m.) to the north.¹⁶

The hill-top meeting is not in a region isolated from other human activity. Adjacent to the hill is a small pastoral community whose inhabitants are driving their flocks along a mountain path. That the two scenes are linked geographically is clear from the continuation of the blue rocks, and that they are linked in intention is suggested by the line of men comprising the right side of the meeting. The fragment with a man holding a stick before him, which has been placed in isolation below the scene of the meeting,¹⁷ should almost certainly be transferred to the line of men above (Pl. 1). The figure wears pastoral clothing and the stick, now held ceremoniously, is a shepherd's staff (cf. Pls. 129–32, 82). The men in similar garb standing above (i.e. behind) the building also hold these sticks, and they face in the direction of the meeting (Pl. 130). They should, I think, be understood as the tail end of the line of men taking part in the hill-top ritual.¹⁸ The man with out-held stick would then be between them and the figures on the hill-top. Two significant factors emerge from this context: in the first instance, shepherds are taking part in the ritual; secondly, within close proximity to the sacred hill, flocks of sheep and goats are being led along a path. A third context should be noted: although the building in the Pastoral scene is an isolated structure, a larger coastal settlement existed within the vicinity as we can see from the fragments of two buildings below (Pls. 145, 42 and 98).

This setting of a sanctified hill near high grazing grounds and within reach of a settlement is characteristic of Minoan peak sanctuaries. Invariably, the local inhabitants could have reached the peak within a short walk, and even the most imposing of sanctuary-hills has

at least one accessible slope with a path leading to the sanctuary, paths on which sheep and goats can frequently be seen.¹⁹

The locality of these sanctuaries is pertinent to the nature of the cult. Amongst the associated votive offerings the most common by far are figurines. They fall into three major categories: human, animal,¹ and individual limbs. Leaving aside the last of these for a moment, the human figures can best be interpreted as substitute votaries taking the permanent place of the faithful who took part in the transitory ceremonies on the hill. This is borne out by the men climbing the hill in the Thera painting, for the distinctive gesture adopted by two of these (Pl. 125) is analogous to the arms-on-chest gesture of the male votive figurines. Significantly, both the sanctuary figurines and the two men in the painting wear the Cretan loin-cloth. We may assume that the votaries represent the inhabitants of the local settlement, and a clue to the livelihood of these people exists in the associated animal figurines. Cattle and sheep comprise the majority (with goats among the less commonly represented species). Herdsmen and shepherds are therefore likely to have been the main participants in the rituals; a suggestion which is reinforced by the locality of the sacred sites, which are always in the vicinity of good grazing ground.²⁰ Platon, commenting on one of the peak sanctuaries near Zakros, says that Traostalos (the name of the height) is 'a name which means "enclosure for goats" and is therefore closely enough related to "sanctuary of goats" to have been used to designate the Minoan sanctuary'.²¹ This association between flocks, shepherds and a peak sanctuary is exactly what we observed in the Thera painting, with one difference in faunal emphasis applicable to the local environment of the island (and apparently of Zakros). On Thera, the land is unsuitable for cattle-breeding on a large scale (although two bulls, at least, were included in the North Wall scenes); and sheep and goats have always been the predominant livestock.

The Thera painting therefore reinforces the implications of the Cretan peak sanctuaries. But perhaps something more could be suggested regarding the nature of the cult by drawing (with all due caution) from analogous hill-top ceremonies, particularly those of more recent times in Greece.

Whatever the local cult or the particular ritual practised it is not hard to understand why rural communities should choose the summit of a hill or mountain as a place of worship. 'Since the mountains reached up to heaven, they were considered as the dwelling-place of the gods.'²² This was the attitude of the Canaanites and the Israelites and it is paralleled by that of the ancient Greeks concerning Mt Olympus. The exposed rural summit was thought

of as the ideal place for communing with god, as the prophets Moses and Elijah demonstrated. The Levantine 'high places' of the Bible were used for many different forms of worship, serving as general purpose sanctuaries.²³

It may be that a similar situation occurred in 2nd millennium Greece, as Faure deduces from the variety of both situation and offerings.²⁴ At least one specialized function possibly uniting this variety does, however, come to mind. Rutkowski comments: 'The very fact that the Minoans looked for sites at high altitudes shows that they regarded the god as ruler of the heavens, as lord of all atmospheric phenomena, who could produce rain and strong, gusty winds. The god ensured the lives and welfare of men and animals that were his property.'²⁵ Such an interpretation evidently has in mind the mountain worship of Zeus as a cult god of weather in Classical times, an association which was also made by Faure.²⁶ The hypothesis of a Minoan weather deity (possibly female rather than male) is not incompatible with the pastoral aspect of the peak sanctuaries. For the successful care of flocks is dependent on an understanding of the seasons.²⁷ As an interesting, though inclusive, side-light we may turn to some parallels from modern Greece.

St George's day, 23 April, is celebrated in rural communities as the beginning of summer, for it is the day when shepherds move their flocks from the winter folds in the plains up into the mountain pastures for the summer. Throughout Greece, shepherds celebrate this day of transhumance by sacrificing a lamb, and from studying the bones various omens are made concerning the welfare of the flocks and the agricultural crops during the new season.²⁸ At least one ceremony on this day takes place on a height. Megas describes a festival at Arachova in which the men of the village, dressed in their best national clothes, race to the summit of a hill. A lamb or ram is placed at the top of the slope for the winner of the race, offered by the village sheep-owners to bring good luck to their flocks in the coming year.²⁹ The first day of summer is not fixed to one calendrical date, and is celebrated on a number of days between March and May. Thus, owing to the warm southern climate, the Cretan shepherds lead their flocks into the mountains on 25 March, but the day is not accidental for it is also a national festival connected with spring. Whatever the date for inaugurating the new season, divination and the forecasting of weather are considered appropriate.³⁰

This applies equally to the spring dates associated with the needs of shepherds and to the summer festival dedicated to the patron saint of weather, the Prophet Elijah (20 July). Elijah, like Zeus the weather-god in ancient times, is venerated on mountain-tops throughout Greece. A well-known ceremony on Mt Taygetus, near

Sparta, recalls aspects of ancient cults. The local inhabitants climb to the top of the mountain where they light a fire. Forecasts regarding the weather are made by examining the smoke, and invocations are made to the Prophet to cure the sickness of the local people.³¹

Climbing to the summit of a hill, lighting a fire and/or sacrificing a livestock animal, forecasting the weather and its effects on flocks, and invoking a cure for sickness among the people, are the characteristics of these spring and summer festivals. They are local, rural ceremonies closely associated with the transhumance of flocks to the mountain pastures and therefore with the inauguration of summer.

Without implying a necessary causal link, it is illuminating to compare these characteristics with those of Minoan peak sanctuaries. By definition, the location was at the summit of a hill, and both the votive figurines and the men in the painting bear witness to the faithful who climbed to worship; fires were certainly lit at the summit, as we know from the archaeological evidence, and into these fires were thrown simulacra of animals, the largest number of which represent livestock; the votive limbs of clay – arms, legs, etc. – have, with good reason, been interpreted as invocations to cure a sickness of the relevant part of the body.³² Archaeological remains cannot provide evidence for the forecasting of weather in respect to flocks, nor can they determine the calendrical dates of the ceremonies, but the environmental location of the sites is helpful. As noted above, all the sites were associated with pastoral communities and were within close proximity to high grazing grounds. In other words, the peak sanctuaries would have been close to the routes used by shepherds when leading their flocks up into the mountains at the time of summer transhumance, and the ceremonies may have been related to such movements.³³

To return, finally, to the Thera painting: the ceremony of The Meeting on the Hill involves the participation of local shepherds and the scene is immediately adjacent to a double line of sheep and goats led by shepherds along a mountain path.³⁴ This context permits an interpretation of the scene as a representation of something which is suggested by the evidence of Minoan peak sanctuaries and is documented in modern times: the association of a hill-top ceremony with the summer transhumance of flocks to high pastures. If this is indeed so, the painting would represent a specific season of the year, the beginning of summer for a pastoral community in the climatic and environmental conditions of the Aegean, in other words April–May. This proposition should be kept in mind as we move to the other scenes of the miniature paintings.

*(The Lower Zone): Shipwreck and Warriors;
its relationship to The Meeting on the Hill
and The Pastoral Community*

The ceremony on the hill may well have had more than one function. As with many ceremonies, it is likely to have been a calendrical ritual. In the Linear B tablets 'the only mention of months is in the context of offerings and religious festivals, which argues that the year was organised around sacred events'.³⁵ As such, the supplications by the faithful are likely to have covered various aspects of their lives pertinent both to the deity (or deities) invoked and to the season of the invocation. The hill on which the meeting took place abuts onto the pastoral community on the right and rises from the coast. It therefore relates to two geographic environments and also to two scenes of activity relevant to those environments. In the hills the shepherds lead their flocks; in the sea sailors drown as warriors land on the adjacent coast.

The Shipwreck and Warriors scene has already been discussed in its capacity as a genre (Ch. 11). It contrasts sharply with the upper zone of the painting and yet is not unrelated. The contrasts are between: a genre scene and a scene unique to iconography; typical recurrent events and a specific event applicable to a time and place; martial and pastoral; danger and calm; coast and inland; lowland and upland.

More than any other painting, this collection of scenes on the North Wall demonstrates the complexity of content in Aegean iconography. This is not a unified image depicting a single event at a particular time and place; nor is it a series of images describing sequential events in the manner of a narrative. It presents a relatively large geographic area unfolded and compressed to be contained within the spatial restrictions of the wall; a juxtaposition of some five events, each relevant to the particular area it occupies, but subtly interrelated; a time-span which suggests that the events are confined to a particular season but are not necessarily simultaneous or sequential in occurrence.

The space rises logically from the sea through the coast and up into the hills. Each of the events is applicable to the zone in which it occurs. The ships and sailors flounder in the sea; the warriors, having landed, march along the coast; the women draw water from a well in the hills (away from the brackish coast); the shepherds lead their flocks up to the summer pastures; the men climb to a summit for their ceremonial meeting.

The scenes may be divided into two major zones by the distinction between genre and event. On the one hand, the Shipwreck and Warriors is an established genre; while on the other hand The Meeting on the Hill is a specific and rare event, and the leading of flocks and

drawing of water from the well are minor pastoral events, typical daily activities but rarely depicted and therefore specific. In spite of their seeming disparity, each of the scenes is connected to the one adjacent, building a complete web of interrelationships. The shipwreck and sprawling figures are associated with the warriors marching along the coast: together they form a traditional image expressing a generalized idea. Clues as to the connections are provided by the repetition of details such as shields and long spears, which associate the participants. More generally, the two events are associated by theme; together they represent the fears, dangers and aspirations of a coastal community: shipwreck and drowning, piracy and coastal invasion. The warriors landing on the coast are related both to the settlement (preserved only in fragments) and to the pastoral scene above. If this is a coastal raid, it must be a raid on a particular community (the buildings) and there must be a commodity worth raiding (the flocks). Hence the genre scene includes both buildings (Siege Rhyton and Town Mosaic) and animals (Town Mosaic). Regardless of the implications behind the juxtaposition of warriors and flocks, the connection is not visible in the painting. For the pastoral scene is complete in itself, the moment of time chosen relevant only to the normal activities of the flocks. Similarly, the women carrying water and the associated well are portrayed as an isolated unit (they are unconcerned with the activities around them) and yet they are linked with the neighbouring scene because the well is adjacent to the animal fold and the water would be used by both flocks and people. The pastoral community is linked with The Meeting on the Hill, for the line of men begins next to the well and fold and ends at the summit of the hill. By the device of reiterating clothing and staffs, the shepherds with their flocks are associated with the ceremony on the hill and something of the nature of the cult is thus implied.

Each of these minor scenes can be considered independently of its neighbours. They are self-sufficient: time, place and occasion being relevant only to the participants of the particular scene. There is no confrontation between the events; the connections are all implied rather than made manifest. Yet the subtle interweaving of elements demonstrates beyond doubt the connections between the scenes.

Such interrelationships suggest that, in spite of the diversity of events, there exists an underlying theme which enables the scenes to be combined. In attempting to understand the theme, we began with the most specific event and tried to trace the threads which link the typical to the specific. The depiction of The Meeting on the Hill is unique, but the occasion shown was almost certainly cyclical in occurrence. The connection with the

shepherds and the adjacent pastoral community suggests something about the nature of the ritual, while the high pastures of the flocks indicate that the season is summer; it may be, as I suggested above, that the ceremony was concerned with the summer movement of flocks.

But are we to believe that the artist has combined the scenes of upper and lower zone purely owing to the connecting link of the flocks? Or can we follow through the interrelationships and suggest a connection between the Shipwreck and Warriors and The Meeting on the Hill? This question needs to be considered in conjunction with the analysis of The Ship Procession. For to understand the theme of the paintings it is necessary to view their relationships as a whole. For the moment, we can say that the most plausible season for the upper scenes is not incompatible with that of the lower. Shipping, and consequently piracy, would have had to have been confined to the summer months when good weather and reliable winds made navigation possible. An interpretation of The Ship Procession as a nautical festival inaugurating the beginning of the navigation season has already been given (Ch. 10), and it remains to ask whether the ceremony on the hill was related to the welfare of ships and sailors as well as to flocks and shepherds. If it were, we would expect to see a reflection of the nautical context in the ceremony, just as the pastoral context is reflected by the inclusion of shepherds in the file of supplicants. Such connections do exist, as we have seen (pp. 93, 95, 117–18), in the clothing and ritual gesture of the participants. The implication of these connections is that the meeting incorporated supplications for the welfare of seafaring. Warren made just this point, but was concerned by the proximity of the meeting to the men in the adjacent pastoral community. His interpretation of the scenes as a narrative concerned with raids on coastal communities and an expedition of ships could not accommodate such relationships.³⁶ The situation becomes clearer, however, if we view the scenes in terms of their particular season, for it is then possible to see how the ceremony on the hill could incorporate aspects pertinent to both flocks and the sea.

In order to understand the entire conception of the West House paintings it is necessary at this stage in the analysis to move sequentially around the walls considering the various aspects of theme as they occur, before finally bringing together the threads which form the overall pattern. We shall, therefore, need to hold this connection in abeyance until after the interlude of the East Wall.

The East Wall

The Landscape

The genre scene of a cat chasing waterfowl was discussed

in the previous chapter, and the environment of the scene considered in Ch. 2. It remains only to draw together the connections between the elements and to see how these relate to the paintings as a whole.

The organization of elements on the East Wall is very different from that on the North. On the North Wall several distinct scenes are juxtaposed, each genre or event being confined to a particular zone in the painting. They are bound together by links in the elements and by geographic continuity. But although the scenes are related by theme and may on occasion overlap, they never interpenetrate, so that each group of activities may be viewed in isolation. The East Wall, in contrast, comprises a single scene in which the elements are inextricably linked; genre ideas and specific setting are interwoven by the unification of time and space.

The main genre scene is that of the cat chasing waterfowl. A further genre image is that of the griffin chasing deer. The former is known from wall paintings as well as from smaller carved surfaces; it is equally at home in Minoan Crete and in the early Mycenaean mainland. The latter is known only from small surfaces – above all glyptic – although it is highly likely that there were other examples in wall paintings which have not survived; this is primarily a Mycenaean theme. Obviously the same idea is reflected in the two images: that of a feline predator in the moment of chase. The images echo one another and reinforce the power of the genre idea. The artist has then brought together mutual associative elements to create the setting. A river and papyrus are the usual elements accompanying the cat and bird genre; waterfowl occur with reeds and papyrus; and the palm tree and papyrus are frequently associated with griffins.

These elements of the landscape are used both as associated links between the genre images and as a specific setting for the action. The various plants growing along the river bank provide an appropriate environment: palm, papyrus, reeds and sedges are all riverine plants. Yet the fact that some of the plants have been cultivated demonstrates that this is not a natural setting but one created by man. Imported exotic species have been cultivated alongside indigenous plants in what is probably a garden or park. The imaginary griffin (which may have been real enough in the minds of the people) is thereby transported into a recognizable, but appropriately exotic, environment. Palms, papyrus and river are the pivotal elements. They serve a double function in providing recognizable aspects of the genre images and specific aspects of a type of place.

Amongst all these complementary elements there is one which is less obviously connected. The deer is more at home in the wooded hills of the following scene than here. We may be reminded of modern deer parks, but its

iconographic role is surely different. By including this animal the artist was providing a link in the chain of ideas running through the paintings. As the prey of the griffin, the deer completes the parallel between the cat and bird image. To stress the connection the artists then used a third combination of feline-predator and prey – lion chasing deer – in the scene immediately following on the next wall.

The theme of the East Wall is of animal chase in an aquatic landscape. The two genre images are reflections of one another and fit naturally into a single painting; the common associative landscape elements are then used to emphasize and unify this idea. To some extent the East Wall constitutes a hiatus in the narrative of the paintings, for both the participants in the action and the environment have changed. But as an interlude it complements the larger theme, acting somewhat in the nature of a metaphor for the human preoccupations of warfare and aquatic activity implicit in the surrounding scenes.

The season, judging by the palm inflorescence and the deer's markings, is summer; but the month could be anywhere from March to October.

The South Wall

The Ship Procession

The South Wall is a complex interweaving of a number of minor activities (one of which constitutes a genre scene) within a major unified event. It is, in our present state of knowledge, a unique representation, though possibly not of a unique event. Reading from left to right: the Departure Town, from which the procession of ships appears to begin, indicates local buildings within a specific landscape, clearly differentiated from the settings on the previous walls or from that of the Arrival Town. The geographic details are clear and logically related; the peninsula rises to a hill-top scene of a Mediterranean forest-land, the pine trees being equally in place in a coastal region and on high land. The delta or streams are aptly surrounded by marsh reeds. The vegetation is typically Mediterranean and grows wild, in contrast to the exotic imported species of the East Wall and the cultivation of both palms and, on the North Wall, fig trees. Amongst the specific delineation of time and space, the minor genre scene of lion chasing deer adds a further dimension, providing a reverberation of theme by echoing the hunting scene of the preceding wall, while anticipating the lion-motifs on the ships in procession. The scene is, nonetheless, appropriate to the natural setting. The people and their buildings are as carefully defined as the surroundings. The architecture is similar in construction to that of the Arrival Town but poorer and less sophisticated. The people wear an almost uniform

style of clothing, a robe reminiscent of that of the North Wall shepherds but delineated by animal-hair. All but two, who are involved in a private conversation, face towards the ships which they watch in still, avid concentration. The presence of people in a coastal environment is emphasized by their concentration on this naval activity.

In the sea, dolphins leap rhythmically around the ships, keeping company with the sailors in true Mediterranean fashion. The dolphins suggest an ideogram for 'sea', defining watery environment much as plants and mammals define land. It is a traditional iconographic association wrapped around the less familiar image of The Ship Procession. The nature of The Ship Procession has been discussed above (Ch. 10), and the conclusion reached that the vessels, occupied by an hierarchic range of working sailors and élitist passengers, have been festively attired for a specific event. Even if, in the future, it were shown that the scene was not unique within Aegean iconography, the application of the specific details mentioned above would still be evidence for the ceremonial importance of the occasion represented. The event is unlikely to have been of an historical nature, occurring only once and perpetuated in the minds of the people, for, to date, no evidence for historical narrative painting can be drawn for this period.³⁷ Rather, like The Meeting on the Hill, the event was probably familiar to the people, but occurred rarely. Being ceremonial in nature, it is likely to have been cyclical in occurrence. As an event both familiar and rare, we can imagine that it was celebrated with festive enthusiasm. This, at any rate, is the impression given by the occupants of the Arrival Town who watch the procession.

Once again, the land which the ships approach is specific. It is differentiated from that which they have left by the vivid rock-structures rising from the harbour. The harbour itself, with the small stationary fishing boats, is distinguished from the water around the Departure Town which, though it has boats moving past it, is not itself a port. The buildings are richer and on a grander scale than those of the preceding town and include a number of specific features ranging from the massive wall and gateway of the town or palace, to the rock-cut structure and the lookout-post above the harbour. This is no generalized account of 'a settlement' but a place which the artist knew well. It may even be a place which we know well, for both the buildings and land evoke the site and surroundings of Akrotiri. The people, also, are individualized. The women at windows or on balconies are, of course, a familiar convention as an image, but here it is used for the genuine purpose of incorporating these important ladies into the proceedings. In their appraisal of the scene in front of them the women are joined by

men: an almost unprecedented situation reflecting either a local variation on an iconographic idea, or a characteristic of the event which the people are watching (the same situation is evident in the Departure Town). The women of the Arrival Town are distinguished in status by the comparatively large scale on which they are drawn, and the privileged positions in which they sit, afforded the best views of the scene and in proximity to horns of consecration. Around the town, the men are distinguished by their clothing, their activities and their gestures. Two fishermen with nets slung over their shoulders reflect the everyday activities of the port and relate to the nearby stationary fishing boats. In defining role, they compare with the pastoral men and women in the North Wall settlement. A small group of men in animal skins suggest visitors from the Departure Town (clannishly keeping each other company). Other men in white robes stand (hierarchically?) back from the proceedings and watch in passive stance. But the event is evidently exciting and not all the participants can be as solemn in approach. Men run up the hill towards the lookout-post to get a better view of the spectacle. The one in the lead turns back and beckons to the others; two men start running back to the more impassive spectators to tell them what they see. Beneath the wall and gateway of the town animated men in a line make their way ritualistically towards the incoming ships. Passing the gate, two men lead a bull. The others, like excited school-children on an outing, strut and move and touch each other as they walk.

The attention of virtually all the figures in the painting is directed towards the procession of ships. The two fishermen are exempted from this attention, for they themselves are engaged in maritime affairs. Because the people look towards the ships from their respective towns, the painting is directed inwards towards the centre. The schema is thereby concentrated in a manner which contrasts with the continuous left to right pattern of *The Landscape* and the varied format of the North Wall scenes. The schema must certainly have been intentional on the part of the artist, for it serves the function of concentrating the spectator's attention on the central event: the grand procession of ships.

There is no necessity to reiterate, here, comments on the function of the procession. One point, only, need be repeated in the context of theme. If, as I have proposed, the procession is in celebration of maritime affairs, then the most likely time for such a celebration would be the inauguration of the new nautical season. The sailing season is, of course, dependent on winds, and the most appropriate time for its commencement in the Aegean is around May.

The West Wall

The West Wall is the tantalizing missing link. It is uncertain, even, whether the miniature frieze was continued; but considering the controlled symmetry of the plan of the room (Figs. 2–4) it is possible that it did. The second panel Fisherman stood in the south corner of the West Wall (Pl. 198), matching the Fisherman on the east corner of the North Wall (Pl. 199), which together complement the doorways in the corners of the remaining walls. The lower section of the West Wall contained large windows, like that of the North. Would the organizer(s) of Room 5 have omitted an upper frieze on one side only? Of the four unpublished fragments of the miniature frieze on exhibition in the Athens Museum, three almost certainly belong to the North Wall. This assumption is based partly on the plans of fallen fragments published by Marinatos,³⁸ and partly on the subject-matter. The fourth is more enigmatic, and it may be that it belonged to the missing West Wall. It shows part of a processional ship, a fact deducible from the ceremonial garments of the upper figures, which are comparable with those beneath the awnings on the South Wall, and the paddling gestures of the lower figures. Yet there does not appear to be room on the well-preserved South Wall for this large fragment. In the lower right edge (of the right-hand joined pieces) is a feature which cannot compare with any of the ships in the procession. It consists of a heavy black horizontal line with a red ochre horizontal line resting immediately on it and white above and below; projecting upwards, in an oblique line, are two long red ochre lines. On the extreme lower left is the top of another red ochre line, obliquely rising in the opposite direction. Features such as these cannot belong to another ceremonial ship, nor can they be part of the sea or of coastal land. The only deduction possible in our present state of knowledge is that they belong to a vessel such as we see on the North Wall in the process of being wrecked. The black and red horizontal lines would then be the gunwale of the ship; the white below, the hull; the white above, the sea; and the projecting red lines possibly spears or poles. If this is so, then we have the astonishing combination of ship types from North and South Walls represented in a single fragment. Such a combination is unlikely to have belonged to either scene. If the fragment came from the West Wall, then the loss of the remainder of the scene is frustrating in the extreme, for the combination of ship types links the two adjoining walls, thereby hinting at a heavier concentration of continuous narrative than might have been imagined from the scenes as they present themselves to us today.

Some new fragments have been unearthed in recent excavations.³⁹ It is thought that these belong to the North Wall, but one may hope that the enigma of the West Wall might be at least partially solved in future years.

The connecting elements

Different though the various scenes on the walls may be, reverberations of ideas are interwoven into the structure providing clues to the interpretation of the underlying theme.

Repetitions of gesture, attribute and clothing of the people establish relationships between the scenes, acting as a means of identifying the characters and their situations. The men in *The Meeting on the Hill* and those under the awnings in *The Ship Procession* share the same ceremonial garments and, in one instance, gesture (Pls. 125–6). Both garments and gesture are sufficiently unusual for it to be likely that the same men are represented in the two scenes. Certainly identification by such means establishes a connection in role, so that although the situation in which each enacts his role appears to be very different, it is likely that in function the situations are related. The élite passengers on the ships are composed not only of men wearing the ceremonial garment, but of men wearing the similar but plainer cloak (both white and coloured) which is worn by men in all three of the settlements. The assumption behind this seems to be that the ceremonial passengers include representatives from all the communities. Similarly, the armour and weaponry of the marching warriors on the North Wall are, as it were, referred to again in *The Ship Procession*. In the former scene, the tools of war are potentially functional, in the latter they act merely as a means of further identification for the seated, robed men (helmets are not associated with men wearing the ceremonial white robe, only with those in the plainer varieties). The implication seems to be that some of the men from the settlements taking part in the procession are also of warrior status.

The function of the animals in the paintings is also important in establishing the connections of theme. On the one hand the animals are firmly placed in a natural (or man-made but appropriate) environment, and on the other hand they serve a symbolic function in reflecting the preoccupations of the people. Hunting and warfare are associations with a long and widespread history. It is not hard to imagine the ideas which formulated the association and something of this has been discussed above (Ch. 3, pp. 46–8, 52–4). In less specialized societies than we know today, men who make war usually also hunt (whether for food or for sport). Power over an

animal is associated with power over a human enemy, not least since identical weapons may be used against both. The analogy is extended to the strength and superiority of one animal (here, as so often, the lion) over others. This superiority is compared directly or indirectly with the superiority of the warrior against his enemy-prey. It is a form of sympathetic magic.

It should be no surprise, therefore, to find scenes of animal subjugation juxtaposed with warriors. The idea was utilized by diverse peoples in the ancient world in a number of ways. We have observed how, on the lion-hunt dagger from Mycenae, the craftsman worked a scene of men in armour attacking lions on one side of the weapon and a scene of lions attacking deer on the other, and the significance of the application of these scenes to a weapon has also been noted (pp. 47–8). From a very much earlier period but with startling similarity of thought to both the Mycenae dagger and to the miniature paintings is the Pre-dynastic knife handle from Gebel-el-Arak. It is carved on one side with upper registers of men fighting one another and lower registers of ships and drowning figures (Pl. 195, cf. Ch. 11, p. 153); and on the other side with (above) lions heraldically flanking a man and (below) lions attacking their prey.⁴⁰

It is helpful to think of such juxtapositions when considering the placing of the miniature paintings. Not, of course, for historical or typological reasons – time and place being too diverse – but because comparing iconographic patterns can be a useful means of throwing light on the interpretation of idea into image.

The Landscape frieze is strategically placed between the North Wall scene containing warriors in a coastal setting, and *The Ship Procession* frieze. A correlation is first made between felines of different species as predatory animals. Thus the cat chases birds; the griffin, with its feline body, runs after deer; and the prowling lion repeats the pattern. Cat and griffin face towards the direction of the succeeding wall. As the scene ends, and the paintings turn to become the next (South) wall, the first image is that of the lion who, in chasing its prey, faces back towards the preceding wall and the comparative scene of feline-hunt. The juxtaposition is certainly intentional, even though the two scenes may have been painted by different hands (below, p. 177 n. 48). It is notable that, in all cases, the predator approaches but has not yet caught its prey. The line of warriors on the North Wall (who walk towards the scenes of animal hunts) also display intent rather than action.

The warriors on the ships in procession merely display, there is neither intent nor action. On the sterns of the ships are figure-heads in the form of lions and (perhaps) griffins. They face backwards towards the real lion and

griffin, but complement the ships' warriors in being, also, a form of display. The firm connections in Aegean iconography between lions and griffins on the one hand, and lions, griffins and warfare on the other, have been discussed in Ch. 3 (pp. 52–4), as have the literary and iconographic associations of lions with ships. It should be clear, in viewing the paintings as a whole, that the juxtaposition of these elements (and even the directions in which the various components face) is far from arbitrary. These associations are utilized as reflections of theme which evoke an idea in the mind of the spectator. We may assume that if the route to understanding these associations and the resultant idea is somewhat tortuous for the modern mind, it would have been intuitive to one familiar with the contemporary ideologies and visual idioms.

Narrative or theme?

As an outsider to the milieu, there is always a degree of assumption involved in determining the fundamental basis of the work one views. It is for this reason that, even in the short time since their discovery, such widely differing opinions on the 'meaning' of the Thera miniature paintings have been put forward. By now it should be clear that the present author would prefer to avoid seeking 'a meaning' in favour of exploring the composite meanings which the artists utilized to build a theme. This implies scepticism towards finding a developed narrative sequence within the paintings, combined with a conviction that the interrelationships between the paintings do nonetheless form a coherent whole.

Narrative is a continuous account of a story or factual event. It is inevitably more difficult both to produce and to recognize such continuity within the static imagery of visual art than it is in the movement through time inherent in literature. Space and time must be united in sequence, and intention singular, before a work can be truly described as narrative.

The events represented in the Thera miniatures are partially united in space and time, though not necessarily in sequence. Furthermore, although an encompassing theme is definable, the wide variation (even within the same painting) between genre and event makes a single intention untenable.

The approach to spatial unity within the paintings appears to be more precise than that of temporal continuity. Time is, I believe, of central importance in the paintings; but rather than presenting a sequence of events through a period of time – in the manner of true narrative – the artist has suggested a number of events, defined by an approximate time-span, but occurring in different places. The contrast between the unified event of The

Ship Procession and the lack of simultaneity in the scenes of the North Wall expresses the dichotomy of approach to sequence. The locality of the scenes is, however, consistent; as we might expect of an island people, all the settlements depicted are coastal, and the rocks of the Arrival Town suggest the same type of landscape as that of The Meeting on the Hill.

To some extent, the paintings show evidence of approaching narrative sequence. The figures in The Meeting recur in The Procession; the two events could be construed as consecutive and united in purpose. But the inclusion of genre scenes recalling typical rather than specific events, as well as the use of symbolic ideas, precludes the paintings from being described as true narrative. They represent an important stage in the development of visual narrative but are saved from the inevitability of such a format by the complexity of their approach.

The interrelationships which build up the underlying theme of the West House paintings are reflected in the large panels in both Room 5 and the adjoining Room 4. All (with the possible exception of The Lilies in the window-jambs of Room 4) are related to the miniature scenes. The two Fishermen are representatives of maritime affairs and are echoed by the two small fishermen with nets in the Arrival Harbour. The Stern Cabins are, of course, reflections of the ships in procession. The Priestess has been shown to be related to The Stern Cabins surrounding her and, thereby, to the ships in the procession (Ch. 10). She carries on her head a snake, and wears a long ceremonial garment. When discussing lions and griffins in Ch. 3 it was noted that on sealstones a female figure with horns held above may be heraldically flanked by either or both of these creatures. Lions, and perhaps griffins, adorn the sterns of the ships in the procession, immediately behind the stern cabin at which the priestess probably made her ritualistic offerings. Just as the associations between lions, griffins and warriors is intentional, albeit subtle, so this too may be an evocative association.

The iconography of the Aegean peoples contains a web of reverberations and interconnections between elements. It is the more potent juxtapositions which enable us to read the ideas – the themes – behind the images.

The West House focus is one of maritime interest and the protection of that interest through ceremonial events. Two ritual events are shown and one other implied: the meeting on the hill, the ship procession, and the priestly rite at the stern cabins. All the settlements are coastal and a maritime economy is implied. For such a community, the dangers implicit in such an environment would be piracy and shipwreck, and both are depicted on the

North Wall. The genre nature of these scenes indicates that they are depictions of typical events, events which would therefore be in the minds of men seeking protection in ceremonies concerned with the activities of seafaring. Maritime activity is associated in the paintings with warfare, for warriors are also seamen. Warriors protect their own coastal settlements just as they may raid those of other people. These connections between warriors and the sea are complemented in the intervening scenes of animals involved in the hunt. The fact that in *The Landscape* painting the animals hunt by water further emphasizes the major theme of aquatic activity.

The maritime theme centres around *The Ship Procession* which, as suggested previously, is likely to be representative of a specific annual occasion, inaugurating the new season for sailing. It remains only to consider whether the scenes surrounding this central idea correlate in time.

For the North Wall, an interpretation was offered for *The Meeting on the Hill* in which the ritual represents an annual occasion associated with the summer movements of flocks on the part of a shepherd community. By analogy with ancient and modern ceremonies of this nature, the usual month for such a ceremony would be May. The South Wall scene was interpreted as a ceremony concerned with the resumption of the navigation season. According to Classical writers, and according to our present-day knowledge of winds in the Aegean, the month of navigation is most likely to have been May. *The Meeting on the Hill* is placed in a zone immediately above a shipwreck and what appears to be an impending coastal raid of piracy. Dangers such as these would only be of concern during the navigation season. A ceremony concerning the transhumance of flocks need not therefore be incompatible with a ceremony concerned with the inauguration of the navigation season if indeed, as the paintings suggest, the economic needs of the people were centred on livestock

and the sea. Both the welfare of flocks and the welfare of seamen are dependent on one major factor: weather. As we have seen, analogous hill-top ceremonies of both ancient and modern times invariably invoke the assistance of a weather god (cf. n. 27 in particular). Such an important connection would explain the appearance of the same men, or at least men with the same clothing and gestures and therefore role, in the two ceremonial scenes of *The Meeting* and *The Ship Procession*. The plants and animals throughout the painting can rarely be specifically placed in time, but all should, according to inflorescence or coat coloration, fall within the spring to summer period. The Lilies in pots decorating the window-jambs of Room 4 bloom from May through to August. Finally, at least one of the large-scale Fishermen in the panels of Room 5 carry mackerel, fish which make an easy catch only once a year when they come near to the coast in order to spawn: the period is again May–June.⁴¹

I conclude, from what must otherwise be a remarkable set of coincidences, that the artists had in mind the interests of their own community – a community which relied on a mixed economy of animal husbandry and, above all, maritime affairs – at the time of year most vital for the success of these activities: spring or the month of May.

The above analysis indicates that, rather than ‘telling a story’ in the manner of conventional narrative as we now understand it, the paintings present a series of images in which the nuances of visual ideas echo one another to convey a unifying theme pertaining to a specific time of year. Humanity and nature are drawn together in collaboration through the correspondence of their activities which provide the basis for the theme. The culmination of aquatic interest which pervades the scenes lies in *The Ship Procession*: for here was an event considered worthy of seasonal celebration in life and lasting celebration in art.

CONCLUDING COMMENTS

13

THERA AND THE NEIGHBOURING WORLD

More in the way of a postscript than a conclusion, the following comments draw together analogous material from surrounding regions – in both particulars and thematic ideas – that have been mentioned in the discussion. The plan is to show, region by region, which sites display affinities with the culture of Akrotiri as exhibited in the miniatures. The majority of the comparisons are contemporaneous, some slightly earlier or slightly later. Those features which were continued through into the Late Helladic tradition are commented upon in general rather than in particular, as by moving away in time from the paintings we also move away from possible spheres of direct communication between the regions. It is this that the outlining of comparisons seeks to illuminate: cultural exchange and the communication of visual ideas.

The more conventional method of establishing that contacts existed between regions at a particular period is, of course, through the study of imports and exports, generally of pottery. Recent work on such connections is listed below, in order that the pattern emerging may be set against the iconographic evidence. At this stage some further comments on dating may be useful, though the matter is likely to remain controversial for some time to come.

The controversy was summarized in the Introduction (pp. 5, 10). Here, I wish to note simply that there are certain motifs, attitudes and above all ideas in the images of the paintings which would be more at home in the pottery and painting of the succeeding period. The following observations may not conflict with the pottery sequence but they do suggest that the time-span between the end of the Thera occupation and the LM Ib pottery phase was shorter than is usually assumed.¹

(1) *Festoon and pendant*. The motif of festoon with *crocus* pendants, while it has precursors in paintings in different contexts (e.g. as jewellery), occurs for the first

time with maritime associations in *The Ship Procession*, comprising the dress-ship lines of Ship 2. The particular form which the motif takes recurs, with only slight modifications, on LM Ib pottery, though it is not found on LM Ia or earlier ceramics.² Though usually in isolation, the motif is twice applied to the Marine Style (Fig. 16). Here, then, a motif which derives from a land plant and has no natural affiliation with the sea is nonetheless associated with a marine environment: an association which is formed in the Thera painting.

(2) *Star with dots*. The motif of star with dots occurs as a prow emblem on all the large ships and recurs on the hull of Ship 2; it may have been the insignia of the Thera fleet. In wall paintings it has one parallel at Knossos, without context, and one, of later date, at Pylos, also without context but conceivably belonging to a ship (Pl. 167). On pottery the motif first occurs in the LM Ib phase where it is frequently applied to the Marine Style on Crete and the islands (though not, to date, on the mainland). There is no innate affiliation between this star motif and the sea; the association first occurs as a ship's emblem in the Thera painting and is then applied to pottery decorated with marine elements. The latter association is unlikely to have occurred without knowledge or understanding of the former.

(3) *Marine rock and algae*. The depiction of marine rock and vegetation which occurs in the miniatures has precursors and contemporary parallels but on ceramics it is most typical of LM Ib Marine Style.

(4) *'Water' sign*. The sign meaning 'water', described in the diagram on pp. 13–14 and in more detail on pp. 35–8, actually *becomes* this abstract sign within the Thera paintings. As a sign it derives its form largely from the marine rock and algae referred to above. It is in the process of transformation in the Vapheio and Dendra cups (the latter in a marine context) and in *The House of the*

Frescoes. But it is only in the Theran paintings that the full development can be observed: coastal rock/vegetation in the North Wall and along the coasts of the Departure and Arrival Towns of the South Wall; 'wetness' in the land around the delta area of the Departure Town; and the sign itself indicating 'water' within the rivers of the East and South Walls and again in The Monkeys painting from B 6. As a ceramic motif it occurs for the first time in LM Ib, underneath a wavy line comparable to those delineating the river in the paintings and in association with either reeds or papyrus which are both riverine plants. In other words, the transference to an abstract sign is now complete and we are only able to read this motif as 'water' through our knowledge of its development in the Theran paintings. Before the discovery of the paintings the sign could not be interpreted. Without a knowledge of the transference observable in the paintings the pot decorators would hardly have been able to utilize this abstraction.

This suggests that the artists who decorated LM Ib pottery were influenced by and hence probably saw the Theran paintings. We may posit missing links in Cretan wall paintings³ but in view of the precision in which the 'water' sign is transformed from naturalistic image to abstract sign within a single group of paintings at Thera, direct transmission seems more likely. If this is so, then the paintings must, of course, have been seen before the volcanic eruption. The corollary is that the date of the destruction of the settlement at Akrotiri and the emergence of those elements in LM Ib style pottery were extremely close. For the particular associations between otherwise non-maritime elements such as crocus and star with the marine world and, in particular, the precise abstraction entailed in the 'water' sign are visual ideas so subtle in conception that their transformation from recognizable factors within wall paintings to pottery motifs in which they are abstracted while nonetheless retaining their associative elements must have occurred within a single generation of painter-potters. Such conceptualization cannot have been held in abeyance without application. Cretan decorators of pots must have been familiar with the ideas formulated in the Theran paintings (or, in the case of the ships' emblems, with the nautical emblems themselves). More radically, we might suggest that some of the Theran artists, having escaped in their ships from the impending devastation of their island, settled on Crete and, in continuing their work, produced the maritime associations and 'water' abstraction on LM Ib pottery.

The impact of Theran iconography was to be felt not only on Crete but also in later mainland art, notably in wall paintings. A lack of early Mycenaean wall paintings may have distorted the picture, but at present it appears

that Theran art produced several ideas which were to be extended into later work. General concepts include: (1) the use of the lion and griffin as parallel forces in the hunt, juxtaposed with images of warriors (the miniatures); (2) large human figures on plain white backgrounds, standing on ground lines (the Fisherman, Priestess, House of the Ladies); (3) the processional stance of some of these figures and (in the case of The Priestess) an associated offering gesture.⁴ More specific elements are: (1) the stern cabin (West House): a generally Aegean feature also adopted at Mycenae but first known in these paintings; (2) red or blue lines in the eye, on either side of the pupil (House of the Ladies, Xesté 3): a feature adopted by Mycenaean wall painters.⁵

Apparently the Theran painters were iconographic innovators. Yet if certain features occur at Thera prior to their general popularity elsewhere, the majority of aspects in the paintings fall within the visual milieu of the contemporary neighbouring world. The pattern of influence in the succeeding period – Crete (particularly Knossos and the east), the islands and the mainland (particularly the Peloponnese) – is reflected in the contemporary parallels, as well as in import-export commodities. Thera was no insular island.

The following is a list of comparisons by region. It is by no means comprehensive and serves only to direct attention to some of the more obvious correlations. The first sections refer to contemporary examples from Crete, the islands, the mainland; then follow some comments on connections with the later Mycenaean wall paintings; followed by interconnections with Egypt and the Near East. Finally, some generalizations regarding Minoan, Mycenaean and local characteristics are offered.⁶

Crete

Knossos and environs: In wall paintings the greatest number of parallels occur within the House of Frescoes: the concept of a garden, the details of papyrus, reeds, water, rocks (including the delineation of wavy lines with a dotted area in depicting rocky ground), and the sign for 'water' shown in its transitional stage (Figs. 21, 22). Further comparisons for other paintings at Akrotiri (B 6) are: monkeys in a rocky, riverine setting (Fig. 22); crocus and animals; these two analogous single compositions are at both sites associated with one another as juxtaposed scenes. In other Knossian paintings, a number of aspects have affiliations with the Theran miniatures, notably: the general concept of miniature painting and, within the miniatures, details such as women in windows/on balconies/with raised arms, horns of consecration in association both with these women and with beam-end decoration (Figs. 57–8); the genre of cat and bird (albeit fragmentary) (Pl. 184); details such as the

crocus pendant (partially developed in the Jewellery fragment and perhaps in the Saffron Gatherer); rocky ground depicted as wavy lines with a dotted area (Caravanserai, N.-W. Entrance Passage stucco relief); griffin with notched plume; star with dots; dolphins; and from Katsamba: the birds and reeds miniature. Further comparisons with other paintings from Akrotiri are the association of monkeys with crocuses (Knossos Saffron Gatherer and Xesté 3 Crocus Gatherers), and lilies in pots (Amnisos and Room 4 of the West House).

Examples of comparative Knossian art outside wall paintings are the Town Mosaic (though earlier), both as a genre and in details of the architecture (Pl. 190; Fig. 53); details such as palms (pottery, Fig. 12); triple papyrus (faience, Fig. 10); lions (sealings, Fig. 31); goat with line on neck (faience); women with raised arm gesture before horns (sealing, Little Palace, Fig. 59); gesture of out-held stick on hill-top setting (ring-impression, Fig. 28); butterfly wings (sealing); cat and bird genre (sealing, near Knossos, Fig. 27). From the Palace walls, the horns of consecration compare with those found at Akrotiri and represented in the Theran miniatures.

Archanes: The house model, albeit earlier in date, offers explanatory three-dimensional comparisons for the architecture (Pl. 111). A seal represents the cat and bird genre (Fig. 26).

Tylissos: The concept of miniature painting recurs, along with details of figures in an architectural setting. On LM Ib pottery it is at Tylissos that the crocus pendants occur in a marine setting (Fig. 16).

Ayia Triada: In wall paintings the genre scene of cat and bird includes deer, the only other known example to do so (Pls. 182–3). In architectural fragments beam-ends occur associated with horns. Dolphins occur in a wall painting. Comparisons with other Akrotiri paintings include an association between women and crocuses. Sealings depict: griffin and lions (the former in flying gallop, Fig. 38); butterfly wings; boar's-tusk helmet with plume (Fig. 65); a paddled boat with an animal stern (Fig. 76). The association between crocus, female figure and monkey recurs on a sealing.

Phaistos: From the First Palace (therefore pre-dating Akrotiri) came examples of: griffins, dolphins and papyrus (mixed context hence possibly later). On LM Ib pottery, reeds occur with the 'water' sign (Pl. 48).

East Crete – Zakros: Sealings: griffin (with spirals, with flying gallop, in association with palm), lion (in association with griffin and with palm – for the latter cf. identical sealings from Knossos and Phaistos) (Figs. 36, 37, 39); towers, doorways associated with armour (Figs. 56, 55); boar's-tusk helmet, helmet with discs; butterfly wings; offering gesture. Sanctuary Rhyton: horns on

walls, tilted perspective (Pl. 117). On LM Ib pottery, reeds occur with 'water' sign (Pl. 23).

East Crete – Makrygialos: Boat with stern cabin revered by woman (seal, Fig. 99). *Mochlos*: Ship with animal stern (ring, Fig. 85). *Pachyammos*: Dolphins (jars). *Gournia*: Reeds with rocky ground shown as dotted area (pot, Pl. 22); bull (sealing, Fig. 42). *Palaikastro*: Crocus (wall painting); 'marine' rocks and crested bird (ivory). On LM Ib pottery: papyrus with 'water' sign; marine vegetation associated with star with dots (Pl. 47; Fig. 18).

Islands

Melos: A single fragment shows that miniature painting was executed on the island.⁷ Details: marine rocks (Flying Fish Fresco); fishermen (vase); papyrus and reeds in association with waterfowl (pots, Figs. 47–8); griffins (pottery, Pl. 64). Wall painting of lilies.

Kea: General concept of miniature wall paintings. Subjects and details: two towns with domestic buildings in a hilly setting; water, women at windows and with raised arms; men and women, some gesturing and running, some walking in procession; long robe (including with trailing material over the shoulder) applied to men probably in a procession; short hair and hairlock associated with robe therefore probably in procession (Fig. 61a); loin-cloths for men in active pursuits, including paddlers (Fig. 61e); women's rustic hairy skirt (Fig. 61d); fallow deer. General: the miniatures include characteristics of both Cretan and mainland art but display a local, island iconographic repertoire, which has several factors in common with that of the Theran miniatures (themselves local, island work, with affinities outside).

Other details: zoned helmet with chin strap, plumes and projection (stone, Pl. 153); griffin (jar, Fig. 40); dolphins.

Rhodes: Wall paintings comparable to those from Akrotiri: lilies; crocuses.

Mainland (mainly LH I–II)

Argolid, Mycenae Shaft Graves

Circle B. Grave I: Butterfly (sword); *Grave Δ*: griffins (sword); *Graves Γ and A*: lions attacking prey (stelai).

Circle A. Shaft Grave V: Genre of cat and bird with associated papyrus and river (inlaid dagger, Pl. 185); lions chasing deer (gold plaques, Pl. 59, stelai); association of palm with lions chasing deer (Pl. 59); griffins; dolphins.

Shaft Grave IV: Genre of warriors and shipwreck (Siege Rhyton, Pls. 191–2); towers, men and women on roofs/balconies (Siege Rhyton, Pls. 119, 191); lions

chasing deer – a theme associated with warrior-hunters (inlaid dagger, Fig. 34); griffins; rectangular shield (Fig. 34; Pls. 148, 191); boar's-tusk helmets, one with plume (Pl. 148) (the latter two categories occur in the Shaft Graves only in Grave IV); zoned helmet (Pl. 191); bone and bronze discs belonging to helmets; shrines with horns (gold cut-out). Further parallel with Akrotiri: lion's-head rhyta found at both sites.

Shaft Grave III: Associations between cat, lions chasing prey, and palm (gold ornaments, Pl. 58), and between cats and palm (cut-outs, Fig. 23), deer and palm (cut-outs, Pl. 77) (the only known comparable example of these multiple associations and of the single juxtaposition between cat and palm). Griffin (including in flying gallop, Pl. 65); dolphins with marine rock (gold cup, Fig. 45); butterfly (cut-outs, scale discs); warrior with horned helmet (faience, Pl. 151); zoned helmets (Pls. 147, 151); shrines with horns (gold cut-out). Among other aspects of the Akrotiri paintings with parallels in Shaft Grave III: swallows and rocks on a gold ornament compare with the theme of the Spring Fresco; association of woman with papyrus on a gold decorated pin head compares with the House of the Ladies; the sleeve pattern and the shape of the earring of The Priestess have parallels in gold ornaments; and – the most precise connection – the scalloped earring of one of the Xesté 3 women is matched by a pair of gold scalloped earrings from the grave.⁸

Argolid – Dendra: 'Crocus' and birds associated with sea (goblet, Fig. 15); dolphins and transitional 'water' sign (cup, Pl. 49); rocky ground depicted as wavy lines with dotted area (seal and cup, Pl. 49); lion with prey (seal); paste and lead helmet ornaments. *Tiryns:* Ship (ring, Fig. 68); rectangular shield (pot sherds). *Prosymna:* Dolphin (inlaid dagger); bird (inlaid dagger). *Epidauros:* Genre of warriors and shipwreck (stone vessel, Pls. 193–4); details: marching warriors, prow of ship, drowning figure, dolphins, stern cabin (?). *Kasarma:* Birds and reeds (seal).

Laconia – Vapheio: Bulls, rocky ground as wavy lines with dotted area, palm including young plants transitional towards the 'water' sign (cups, Pl. 31). Seals: lions (Fig. 35); griffin and priest with long robe; woman in rustic hairy skirt with out-held stick (Fig. 63); helmet with tripartite plumes (Fig. 66).

Messenia – Pylos: Lion (Fig. 33) – subject of lion attacked by man is paralleled by seals from Shaft Grave III and Vapheio; the duel, which also occurs in Shaft Graves III and IV, recurs in Pl. 146; lion and figures in priestly robes (Fig. 30). *Rutsi:* Genre of cat and bird with river implied (ivory comb, Pl. 186). *Kambos:* Man in loin-cloth with votive arm gesture (statuette, Fig. 62).

Boeotia – Hyria: Ships with cabins (stones, Pl. 165). *Thebes:* Boat with stern cabin (seal, Fig. 98).

Magnesia – Volos: Shrine with horns and beam-ends (gold-plate, Pl. 115). *Mega Monastiri:* Women with raised arm gesture before horns (ring, Fig. 60). Both these are generally dated to LH IIIa.

Mainland wall paintings (LH IIIa–b)

Mycenae: Women in association with horns and beam-ends (Citadel House); women at windows with the raised arm gesture (Ramp House and Megaron); stern cabins; warriors, warrior associated with a griffin (Pl. 157); helmet with projection (Pl. 157). (For associations between warriors, griffins and lions, cf. faience from the House of Shields, Pl. 152.)

Tiryns: Bird and papyrus; fallow deer (Pl. 79); warriors; architecture with beam-ends.

Thebes: Warrior at window (Pl. 156); buildings.

Orchomenos: Warriors (Pl. 158); architecture with beam-ends.

Pylos: Tri-colour rocks; lions and griffins in association; fallow deer (Pl. 78); warriors (Pl. 155); architecture with beam-ends and horns in association (Pl. 116); ship mast and rig (Pl. 166); star perhaps on a ship's hull (Pl. 167); (cf. also the continuation of the theme of swallows and tri-colour rocks familiar from the Spring Fresco).

The Near East

Priestly garment; long robe, especially with trailing fabric.

Egypt

Genre of cat and bird: transformed in the Aegean but retaining the elements of cat, bird, papyrus, river. Offering gesture. General format of friezes in juxtaposition with panels. There are a number of aspects of the ships which bear comparison with Egyptian vessels (cargo hold, composite mast, mast through awning, mast-top eyes, detachable bow motifs) but then there are far more Egyptian than Aegean representations of boats available for comparison. Specifically Egyptian aspects are: the awning, and bow and stern structures; dappled/shield-like cabins even on peaceful craft; the specific form of the stern cabin, decorated hulls, skins at or near the stern, and the old-fashioned use of paddling, all applied for ceremonial nautical occasions.

International (Egypt and the Near East)

The lion as hunter; the analogy between the hunting role and prowess of the lion and the power of the warrior in the fight. This analogy was applied in Mycenaean Greece

as in Egypt and the Near East, as was the role of the griffin as a parallel force to the lion (note the discovery of the Mycenaean lion/griffin-hunt wooden lid at Saqqara, Fig. 41, and the Aegean-style griffin on the Ahmose axe, Pl. 63). Other international aspects are: the association of lions with seafaring in evoking power over the forces of the sea; sprawling, naked figures (particularly in a lower pictorial zone) utilized as a sign of defeat; prow motifs comprising vegetation or animals; the concept of the palm garden.

Aspects which have international counterparts but are expressed at Thera in local variations are: the hairlock, earrings. The cultivation of the palm (and perhaps papyrus) further indicates connections with the south.

Summary

A brief summary of general aspects and attitudes in the Akrotiri paintings which pertain also to Minoan Crete or to the mainland, and those which are idiosyncratic to Thera, may help to elucidate the general picture.

Minoan: The crocus, especially with its associative elements of women and monkeys. The star with dots (painting at Knossos, LM Ib pottery on Crete and the islands; one mainland exception: the Pylos fresco fragment). Dolphins in marine setting (on the mainland the setting is omitted, with the exception of the Dendra cup). Horns of consecration (Minoan, but note that they also occur in the Shaft Graves). Towers (Town Mosaic, Zakros sealing and real examples at Pyrgos and on Kea, but note also the Mycenae Siege Rhyton). Loin-cloth (of Minoan inspiration but not exclusively Cretan; note also that in the Kean miniatures the loin-cloth is worn by men in active pursuit, as it is in the Theran miniatures). Wavy and long hair (characteristically Minoan). Zoned helmet (known on the mainland but more common on Crete). Ships with curved hull and bifurcated prow. Harbours on peninsulas (but note that Minoan harbours are better known than those of the mainland). Characteristics of The Meeting on the Hill: a representation of a peak sanctuary (generally thought to be Cretan) and the Minoan votive gesture (though cf. Kambos statuette (actually Cretan?)). Cat and bird genre: inclusion of the deer (Ayia Triada). Approach to time: in both examples of genre scenes (cat and bird, warriors and shipwreck) the Theran artists chose a characteristically Minoan moment of time in the drama, that of anticipation and suspense before the crucial attack or confrontation. This contrasts with the Mycenaean examples of both genres in which the moment of time chosen is that of the climax in the event.

Mycenaean: Lion as hunter (seals, ivories, inlaid dagger). Griffin as hunter (this role is not yet developed in the Shaft Graves but occurs in later Mycenaean art). Deer

as prey. Association of lions and griffins and of the two with warfare (common to Mycenaean imagery but note that lions and griffins occur together and occasionally as hunters in the Zakros and Ayia Triada sealings, and lions first appear with warriors in the Temple Repository sealings). Association of lions and/or griffins with palms (but cf. the Zakros sealing of griffin with palm and the Zakros/Ayia Triada/Knossos sealings of lions with palm). Association of cats, lions, deer and palms (in Shaft Grave III). Boar's-tusk helmet (known on Crete but more common on the mainland). Helmet attachments such as discs, horns (again not unknown on Crete but more commonly Mycenaean). In general, specifics of iconography and associative themes are often closest to those of the Shaft Graves: the inlaid dagger provides the best genre parallel for the cat and bird, the theme of lion chasing prey is frequently repeated; but, as noted above, the moment of time chosen for these scenes is more Minoan than Mycenaean in approach.

Theran (Cyclades): The hairlock combined with a blue head; an emphasis on earrings; an emphasis on robes, not only white for ritual (cf. the Kean miniatures and later mainland wall paintings) but also coloured for shepherds. The architecture, while it has parallels elsewhere, closely compares with that of the site of Akrotiri. In the cat and bird genre: the elaboration of the theme and the combination of elements used to echo the central idea (elaboration: the palm garden; reiteration: the griffin hunting deer, which in turn echoes the lion-hunt). In the warriors and shipwreck genre: the additions of the Pastoral scene and The Meeting on the Hill. The first known depiction of peak sanctuary ritual. The Nautical Procession; the earliest Stern Cabins; the combination of miniatures and panels; the combination of genre scenes with specific events; an association of ideas linking the paintings of two adjacent rooms (these aspects may be uniquely Theran or it may be that, especially in the case of the last two, the unique state of preservation of the paintings has provided an opportunity to recognize such characteristics).

Theran exoticism: Aspects in the Akrotiri paintings which express a Theran predilection for exotic tastes are: palm trees; hairlock with blue hair; earrings; blue monkeys; antelope; The Priestess.

Thus the Theran painters can be seen to have had affiliations with Minoan Crete (which was to be expected), with the islands, in particular Kea and Melos (which expands our knowledge), and with early Mycenaean Greece, in particular the cultures represented by the assemblages of Shaft Graves III, IV and V (which adds new dimensions to our understanding of cultural exchange); to a lesser extent, connections can also be seen with the more distant areas of Egypt and the Near East:

an expression of the internationalism in trade and contacts known to have applied to this period.⁹

Concluding comments

This pattern is much the same as that which is emerging from the study of pottery and other imperishable commodities. Shaw notes some Cretan characteristics in the architecture of Akrotiri, yet the site nonetheless retains local, Cycladic individuality.¹⁰ Horns of consecration and the appearance of Linear A signs on pottery are further indications of contact with Crete¹¹ but do not imply Cretan dominance (as might, for example, the appearance of a Linear A archive). Cretan pottery imports at Akrotiri have been discussed by Niemeier, who cites specific connections with the pottery of Gournia, Palaikastro, Zakros, Mallia and Knossos.¹² Yet the picture of large quantities of Minoan pottery on the site can be over-emphasized, for such discussions centre around luxury wares which inevitably constitute a small proportion of the total. Preliminary estimates suggest that of the pottery at Akrotiri only 6.5% is Cretan imported and 2.5% mainland.¹³ A large number of Minoan stone vessels have been identified.¹⁴ Few Thera exports have been identified elsewhere.¹⁵ Several writers have noted similarities between pottery found at Thera, Melos, Kea and the Shaft Graves (notably Circle B, Graves Γ and N), in some cases specifically identifying imported wares.¹⁶ Recent examination of mainland pottery on Thera suggests north-eastern Peloponnese, West Attica and Aegina as the most likely areas of export.¹⁷ Pottery distribution indicates a network of trade between Crete, the islands of Thera, Melos, Kea and Kythera, and the mainland (concentrated in the Argolid). One notable difference between the iconographic and the ceramic evidence is the emphasis on connections between the Shaft Graves. Pottery affiliations are shown to be stronger with Circle B, whereas iconographic affiliations are demonstrably stronger with Circle A (III, IV and V).¹⁸ The iconographic evidence is supported by some other material finds: two ostrich-egg rhyta found in Δ 16 at Akrotiri are paralleled by those from Shaft Graves IV and V;¹⁹ dagger types from, or reputed to be from, Thera correspond to types from Circle A (p. 105); the correlation between the scalloped earrings of one of the Xesté 3 ladies and finds in Shaft Grave III has already been mentioned.

Two figurines predating the early Mycenaean 'Naturalistic' type were found at Akrotiri; the closest parallels (albeit not exact) are from Kea (Pl. 141), Melos and the Peloponnese, reflecting the same pattern as above.

A few imports at Thera indicate trade with the eastern Mediterranean: a sherd of a Cypriote White Slip I bowl,

a Canaanite jar, three Tell-el-Yahudiyeh juglets (in the Thera Museum), nine gypsum vases, which are probably Syro-Palestinian, also one possibly Egyptian alabaster jar.²⁰ Again the iconographic evidence suggests a slightly different emphasis, there being more connections with Egypt than with the Near East. Ideas may have infiltrated from the one via the other or, indeed, via Crete, but the possibility of direct contact between Therans and Egyptians should not be ruled out. 'Invisible' imports/exports are inevitably a spectral presence and among them are ideas and images. Thus a study of iconographic relationships between areas can be useful in broadening the overall view.

Clearly it need not be assumed that each site which yields iconographic affiliations implies direct contact. Links between, for example, Tylissos and Akrotiri may have occurred through the intermediary of Knossos; similarly, affinities with sites in the Argolid may have been filtered through Mycenae. But some areas display sufficiently strong associations for immediate relations to be assumed: on Crete Knossos, possibly Ayia Triada (though there Knossos or Zakros may have been intermediaries), and, in the east, Zakros; the islands of Melos and in particular Kea (whose painters shared a common approach to the miniature style); on the mainland Mycenae and, in Laconia, perhaps Vapheio (though the relative dating of the seals is imprecise). A few contemporary parallels at or near Pylos draw attention to the fact that aspects of the later, LH III, wall paintings express conservatism in attitude through their affinities with the Thera paintings. The more distant areas of Rhodes, the Levantine coast and Egypt may conceivably have been within the sphere of Thera contact. All these connections point to a significance for Thera proportionately greater than the size of the island might have suggested.

Thera straddled the Minoan-Mycenaean world. Geographically the island lies between Crete and the Peloponnese, providing a convenient stopping point on the route between the two. Chronologically the culture of Akrotiri burgeoned at the only time in prehistory when Crete and mainland centres like Mycenae were equally wealthy and powerful. Aspects of both areas can be seen to have infiltrated the indigenous island culture, yet without overpowering native individuality. Thera, too, provided an impetus in visual ideas which was to be extended to both areas, making a positive contribution to the Aegean heritage.

Recent excavations on Thera, Melos, Kea and Kythera have provided new insights into the importance of the islands at the beginning of the Late Bronze Age. It is still too early for a close definition of the interrelations of these local cultures, but a pattern is emerging in which

each of the major settlements on the islands, almost certainly in mutual contact with one another, flourished at a time of unsurpassed wealth, of artistic and technological innovation, and of mercantile expansion: the period of the richest of the Mycenae Shaft Graves and the height of the Minoan palatial system. The contribution of the island cultures may have been substantial; for they provide stepping-stones between the land masses of Crete and the mainland, natural ports of call for ships passing along the trade-routes of the Aegean. Thera, in particular, is strategically placed for such a role. It lies directly above Crete, approximately one day's sail from Knossos.²¹ Ships travelling in a south-easterly direction would pass by Zakros, itself a noted port of call for traffic with the eastern Mediterranean. Ships travelling directly from Thera to the east would pass via Rhodes (and thence to the Levantine coast). Ships travelling north-west would soon reach Melos and from there could move either in a northerly direction to Kea and thence to Attica, or in a north-westerly direction to the Peloponnese. Kythera stands as a natural stopping point on the way to Laconia or Messenia (whether via Melos or directly from western Crete). Naxos is an obvious further candidate for this trading network, forming the last side of a diamond between Kea, Melos and Thera, and providing a useful route for mainlanders travelling to the east (Miletus and Rhodes). Perhaps future excavation on this island will prove it to be worthy of its geographic position.²²

Thera constituted a convenient port of call for ships travelling from Crete, the mainland, and the eastern Mediterranean. It lies centrally between these three major trading areas. The overwhelmingly prosperous situation in the Aegean at this period is unlikely to have been engendered either by guarded indifference or by outright aggression between the two major centres of Crete and the Peloponnese. Some form of co-operation (however short-lived) is likely, a co-operation nurtured, perhaps, by mutual interest in overseas trade with Egypt and the Near East. Such co-operation was evidently tentative, as the subsequent shift of power from Minoan Crete to Mycenaean Greece appears to demonstrate. It may be that a neutral intermediary in the trading network was required and, as such, Thera was ideally situated.

Akrotiri, independent and inventive, may well have

been a central port of call for Aegean sailors as well as some from distant lands: a nexus for international trade.²³

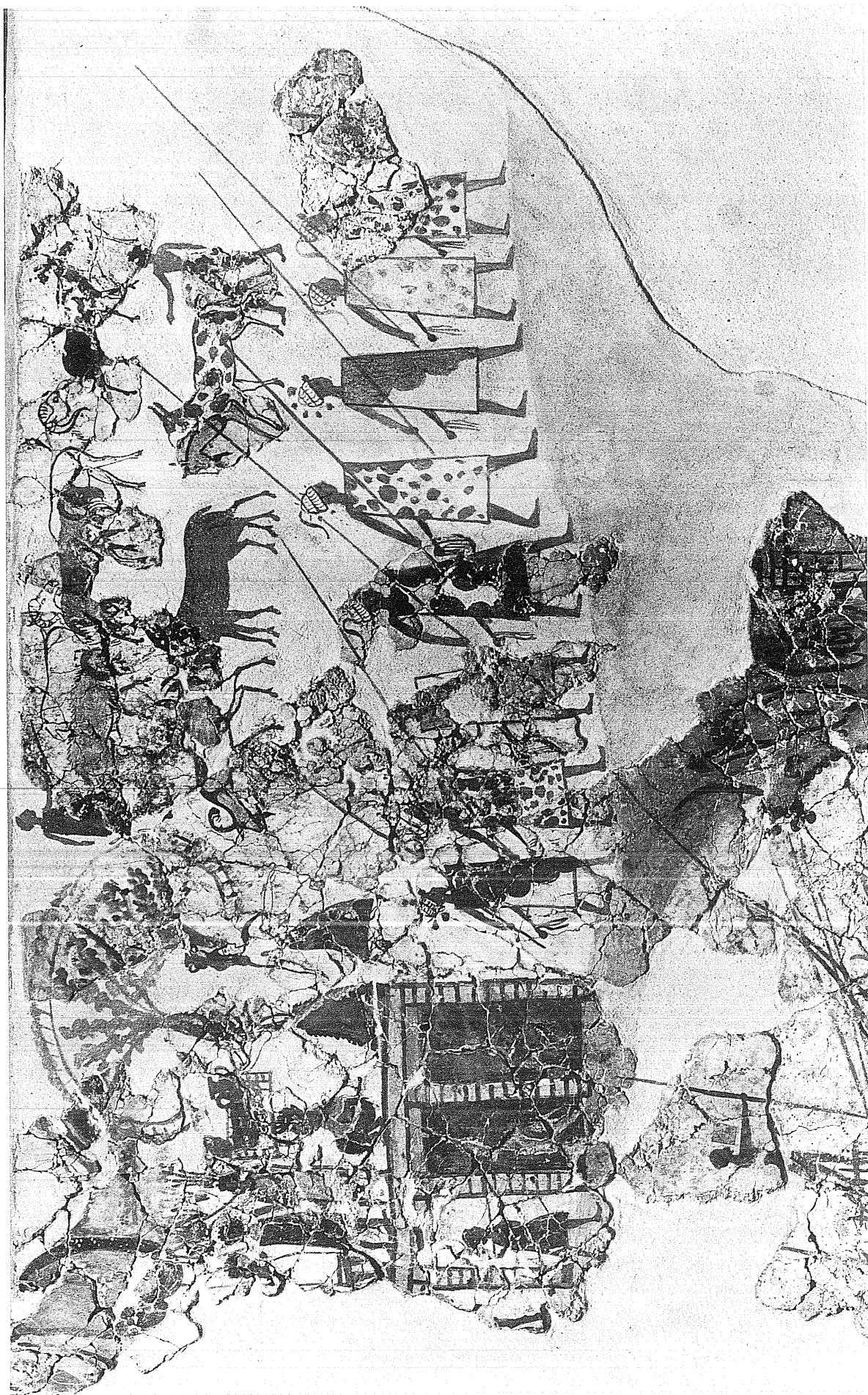
A comparison (albeit on a grander, more cosmopolitan scale) is suggested in the 15th c. painting from the Tomb of Rekhmire illustrated in Pl. 197. Here, registers of foreigners are shown, some bringing tribute, others trading goods to the new vizier. Keftiu bring their Aegean vessels filled with unseen commodities and plants; ingots and tusks of ivory arrive from the eastern Mediterranean; Syrians, Nubians and people from Punt all bring their respective goods. Amongst these are exotic luxury commodities including live trees and animals such as antelopes and monkeys. Such trading would not have gone in a one-way direction to Egypt; some of the Aegean participants may have brought back such commodities to their homelands. Hence in the Thera paintings we find such exotica as palms, antelopes and monkeys. A few years prior to this painting Therans could themselves have been part of such a scene. Only Egyptian painters have left us a visual record of such proceedings, but international trading centres were surely not restricted to Egypt, and ships carrying goods between the various lands must have acted as intermediaries: ships such as those in the Thera painting.

Akrotiri was a thriving maritime centre in a strategic position, vitally concerned with the neighbouring world; it had a strong naval fleet to serve its maritime role. As such, the island of Thera was clearly a natural setting for the celebration of maritime activity. It is this theme which dominates the miniature wall paintings. In this perspective, *The Ship Procession* can be seen to be of enormous historical importance; for it documents, uniquely, an event which may have involved participants from the major centres of the Aegean – Crete and Mycenae – at an intermediary island which served as a focus for the network of Aegean maritime trade.

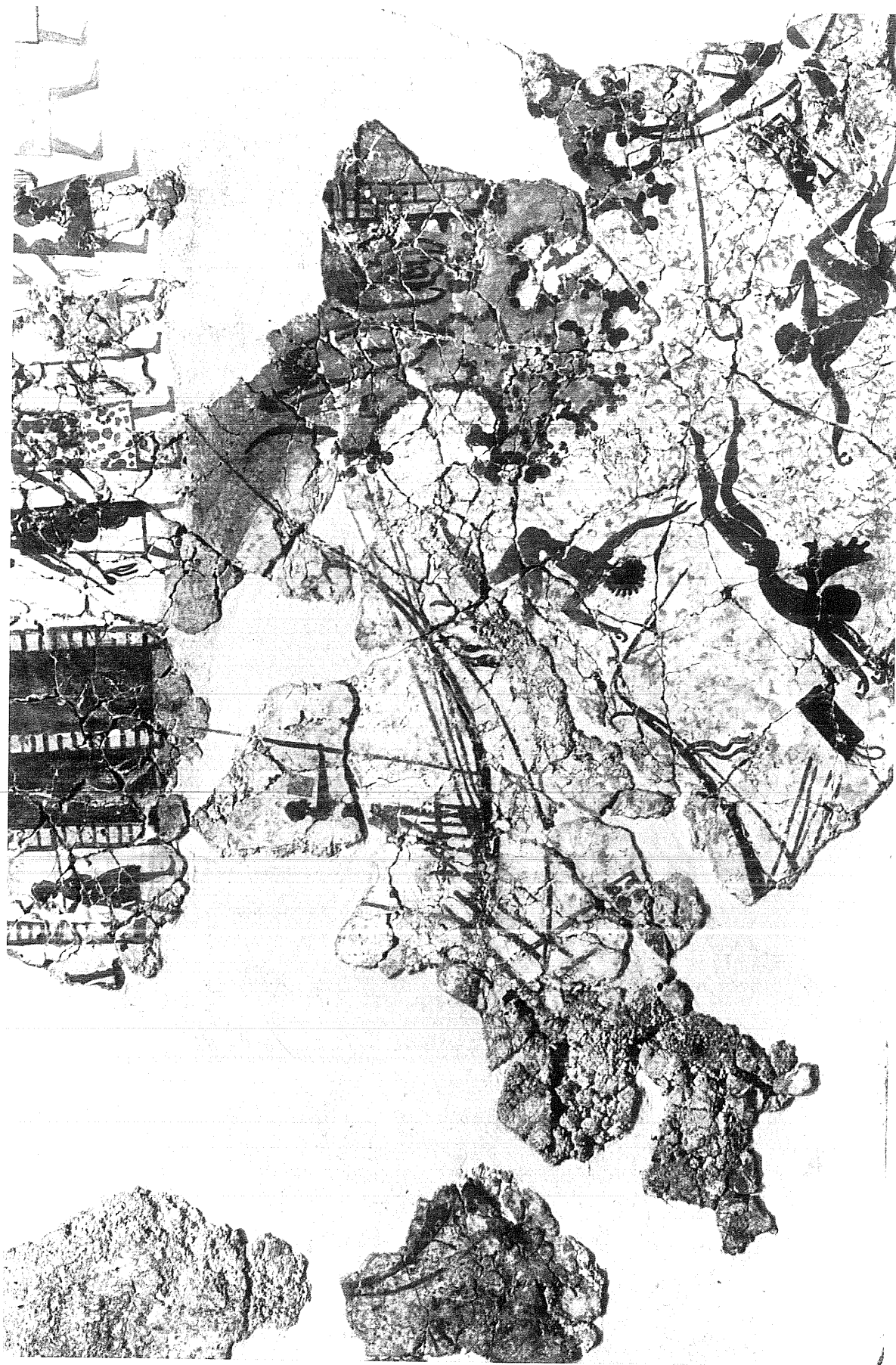
Characteristically, the Akrotiri artists have incorporated this event – of importance beyond the confines of the island – within a cycle of events and reverberating ideas which draw together the significant annual concerns of the independent, outward-looking islanders of Thera.



1. North Wall: The Meeting on the Hill. (With fragment in new position, cf. Col. pl. A.) 1:2.



2. North Wall: Pastoral Settlement and Warriors. 1:2.



3. North Wall: Shipwreck. 1:2.



4. East Wall: palm trees. 1:2.



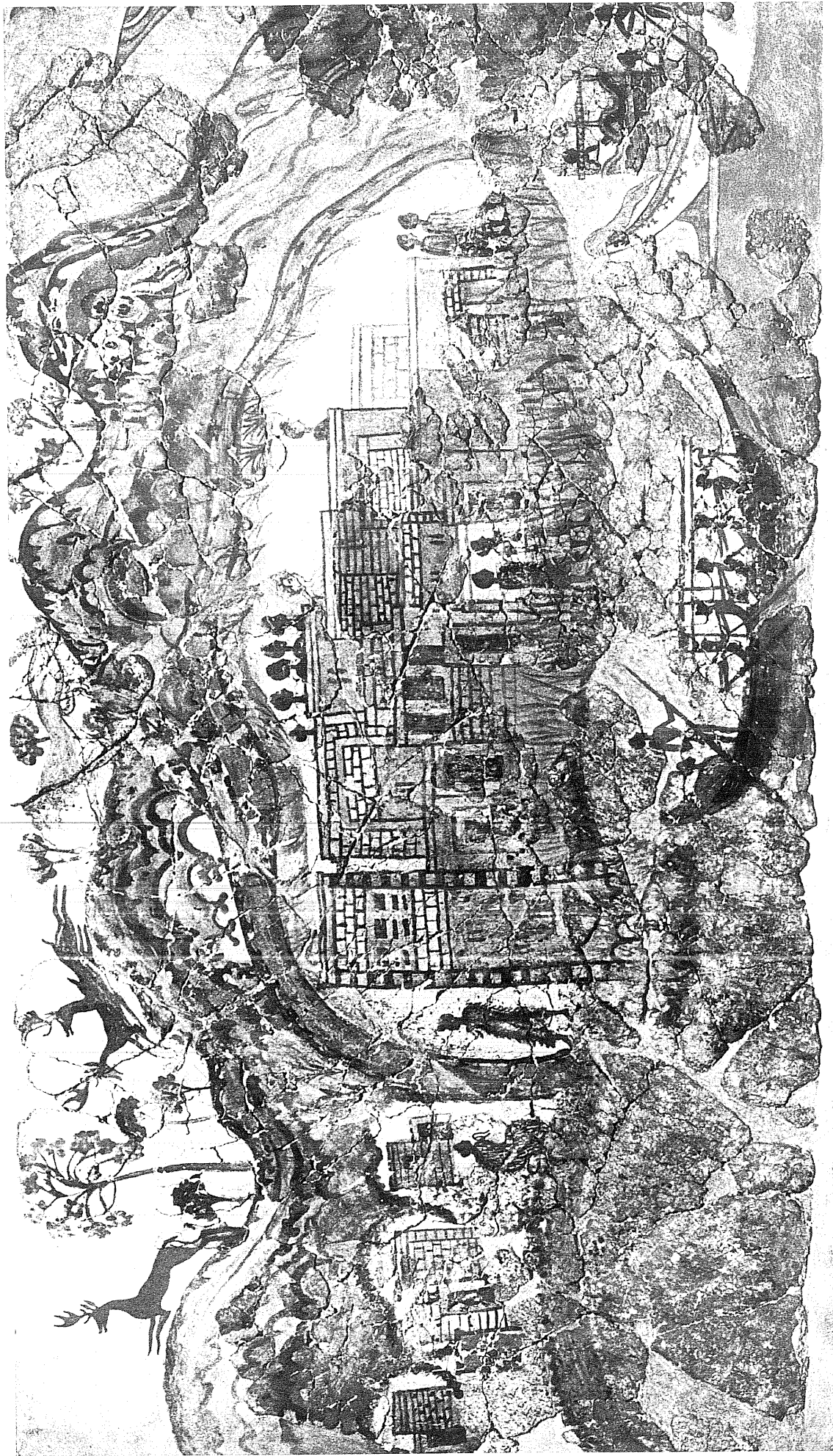
5. East Wall: griffin and deer. 1:2.



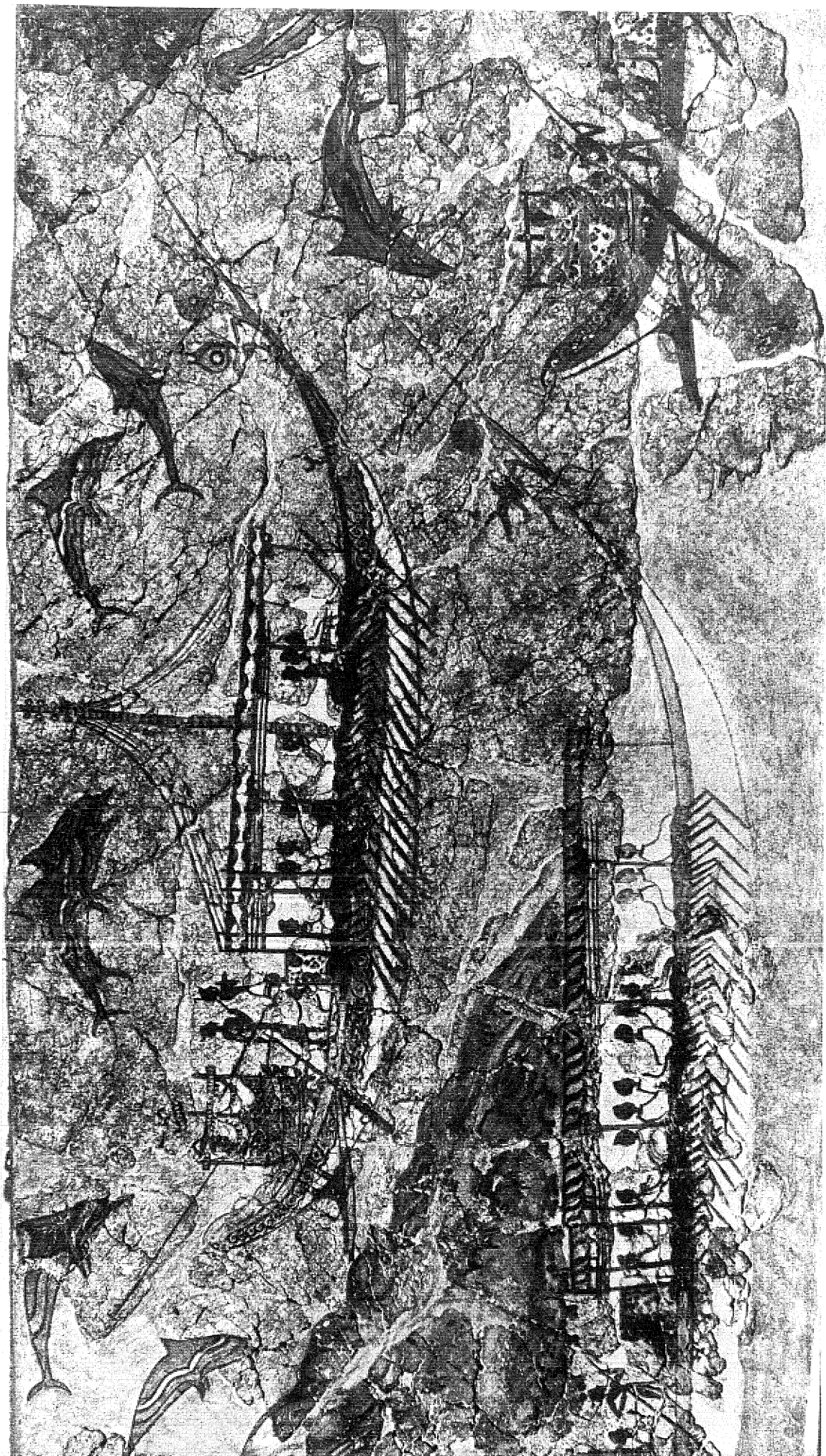
6. East Wall: cat and bird. 1:2.



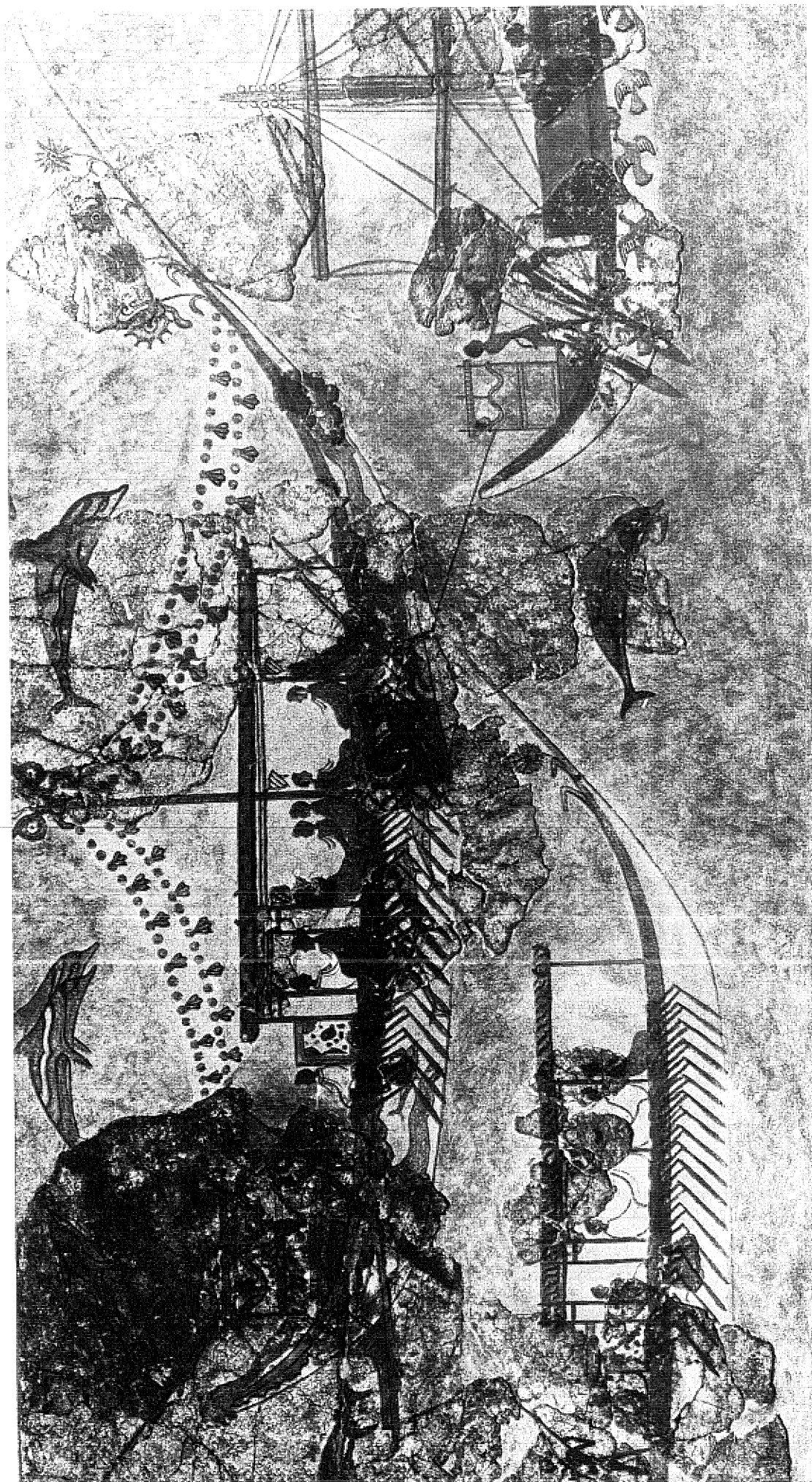
7. East Wall: young palms. 1:2.



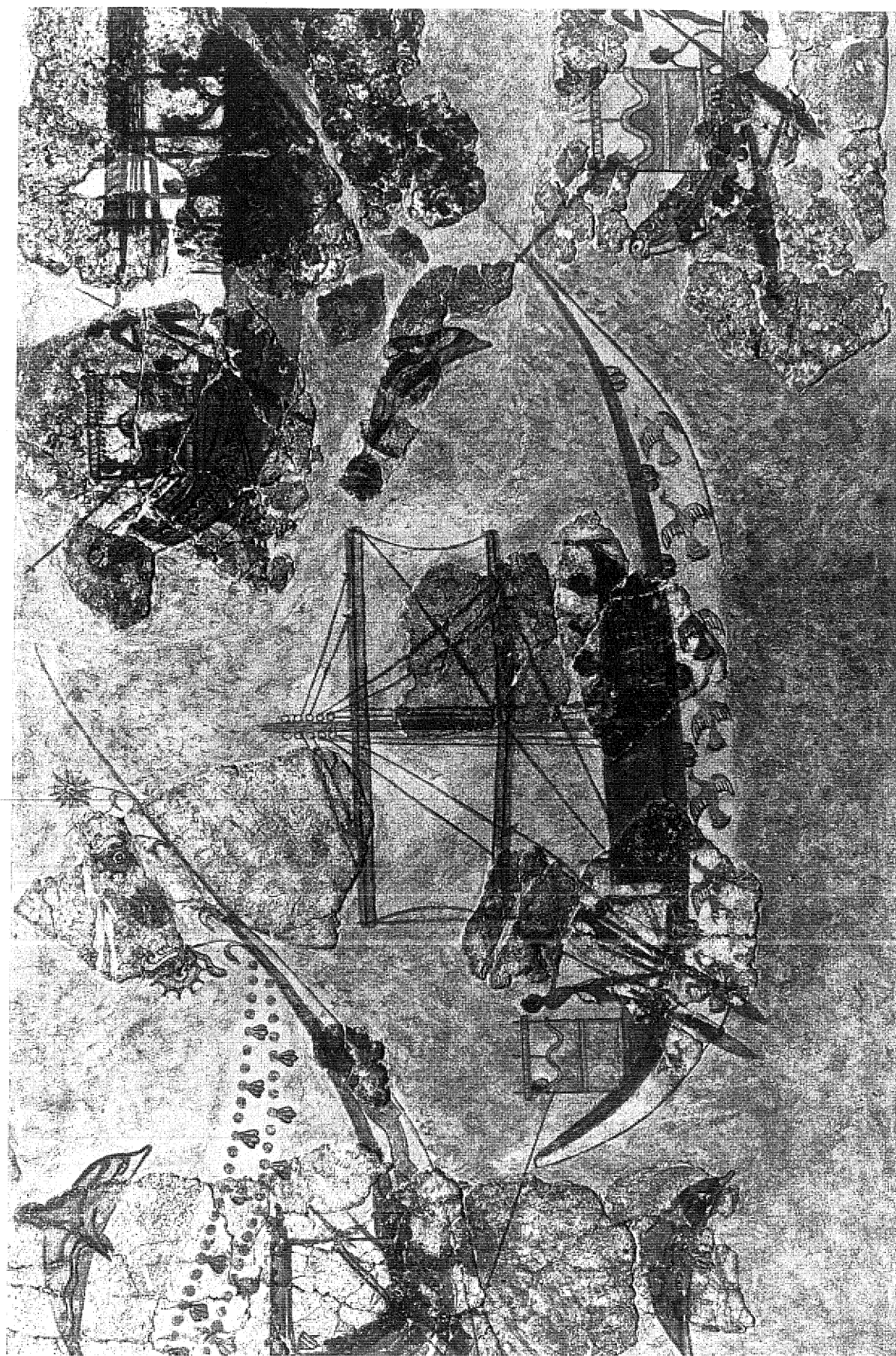
8. South Wall: Departure Town and surroundings. 1:3.



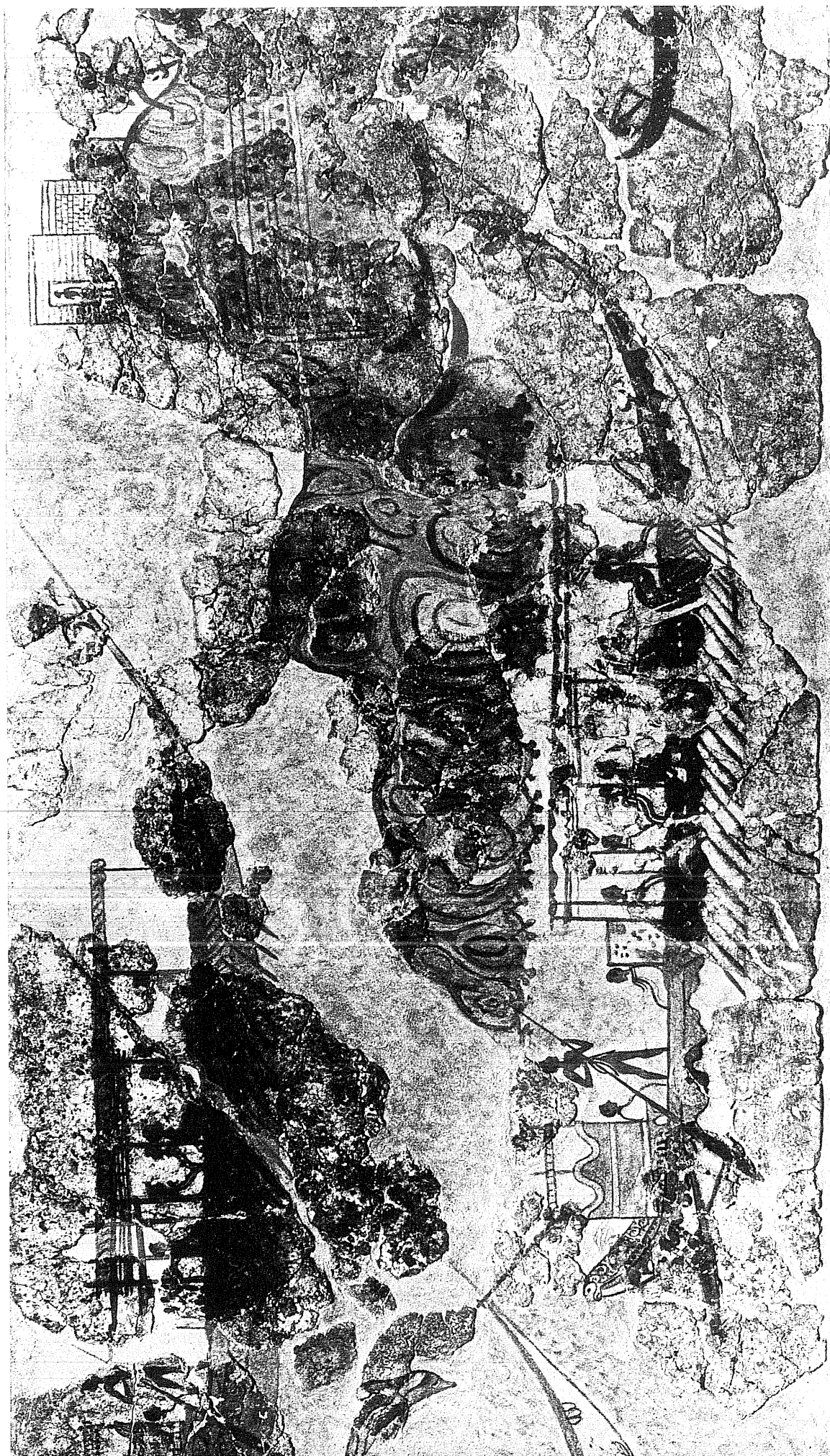
9. South Wall: Ships 1 (above), 4 and part of 5. 1:3.



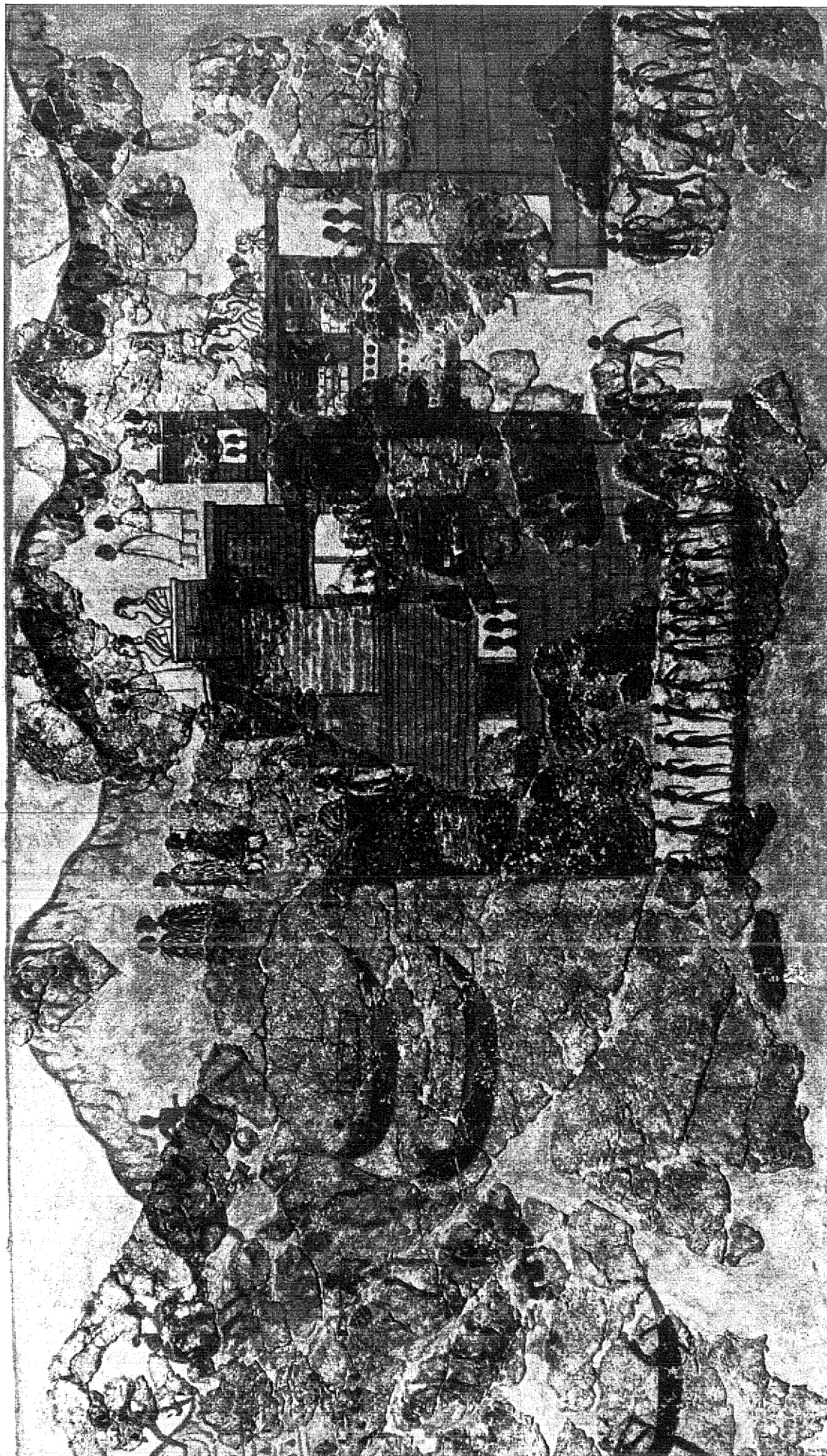
10. South Wall: Ship 2 (the flagship) and parts of Ships 5 and 6. 1:3.



11. South Wall: Ship 6 (the sailing ship) and parts of Ships 2, 3 (above) and 7 (below). 1:3.



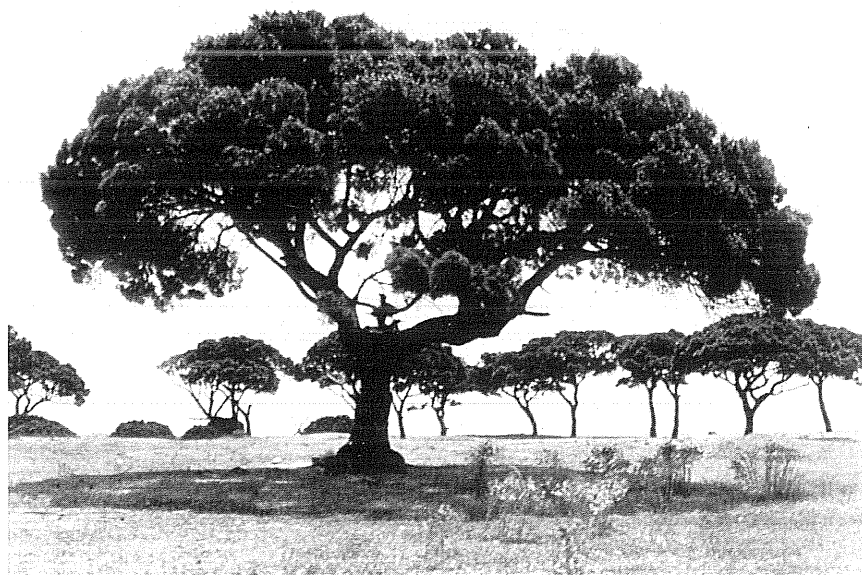
12. South Wall: Ships 3 (above) and 7 (below) approaching the Arrival Harbour. 1:3.



13. South Wall: Arrival Town and surroundings. Scale: 1:3.



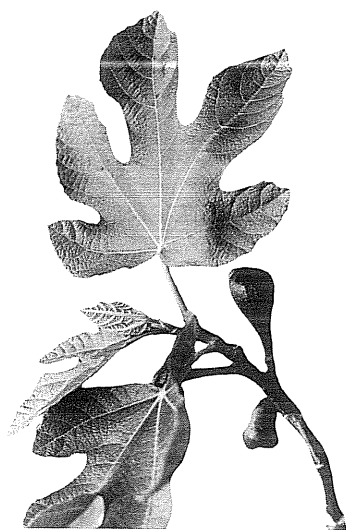
14. Trees: detail from the Departure Area (South Wall). 1:1.



15. Stone pines, *Pinus pinea*.



16. Trees in enclosure: detail from the Pastoral Settlement (North Wall). 1:1.



17. Leaf and fruit of the fig.



18. Fragment of a serpentine vessel, Knossos. Impression.



19. Lyme grass, *Elymus arenarius*.



20. Common reed, *Phragmites communis*.



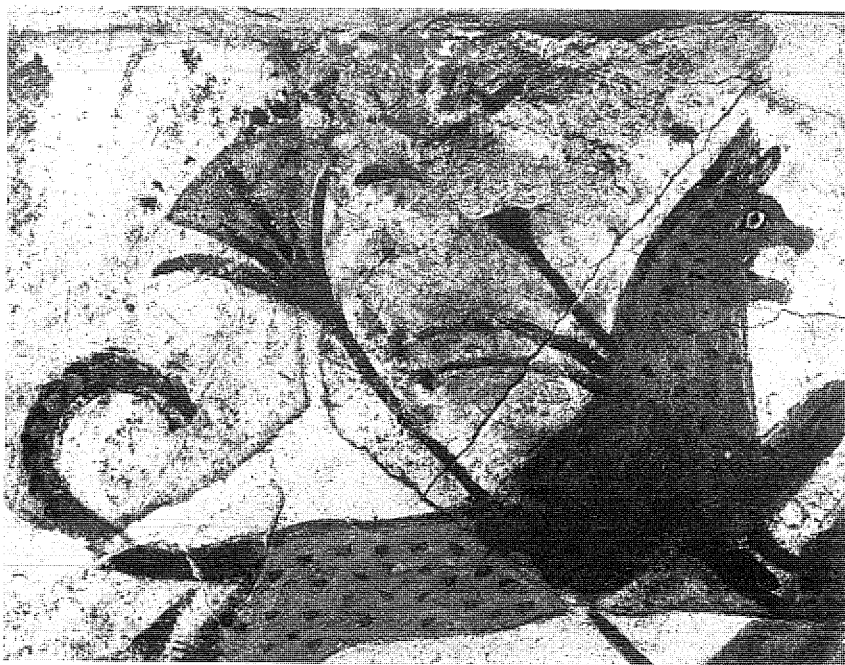
21. Reeds: detail from The Landscape (East Wall). 1:1.



22. LM Ia amphora,
Gournia.



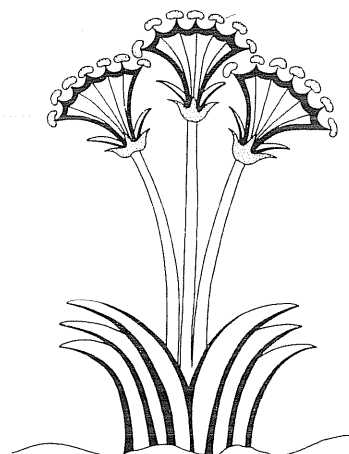
23. LM Ib cup, Zakros.



24. Papyrus and cat: detail from The Landscape (East Wall). 1:1.



25. Drawing of the Monkey and Shrine, fragment of a wall painting from A1, Akrotiri.



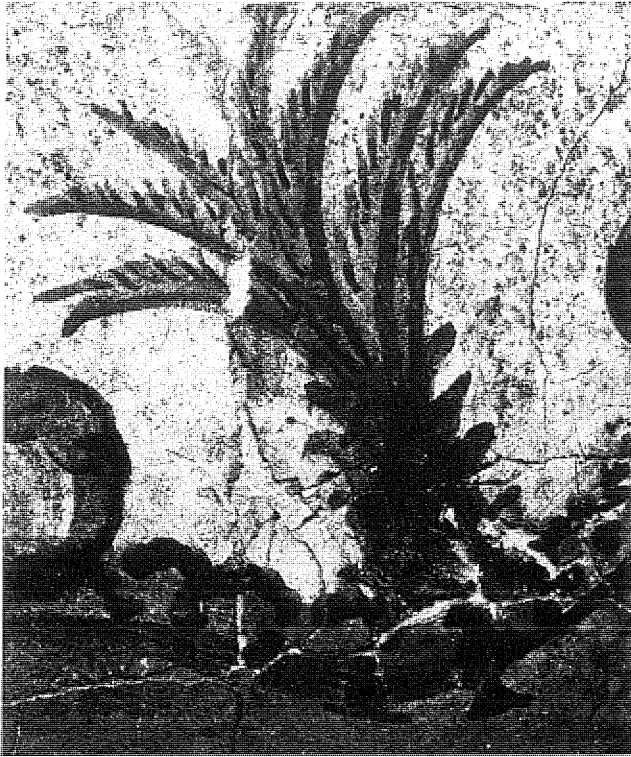
26. Drawing of the Papyrus painting, House of the Ladies, Akrotiri.



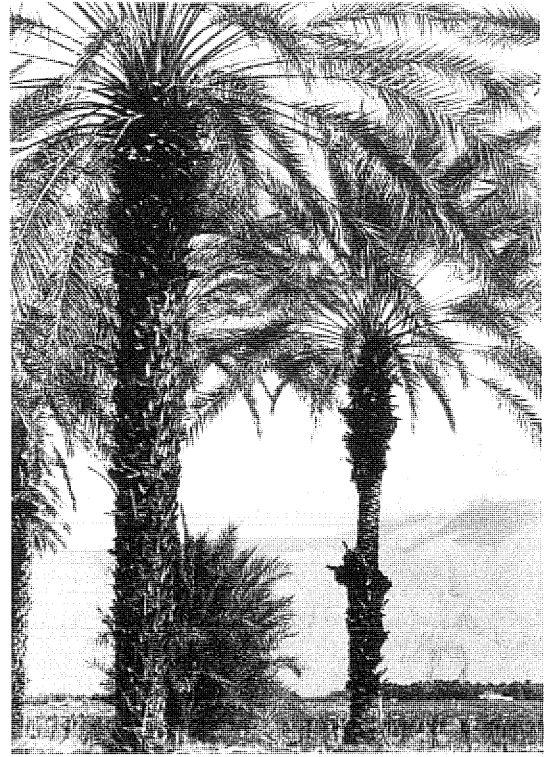
27. Sedges and young palms: detail from The Landscape (East Wall). 1:1.



28. Adult palms: detail from The Landscape (East Wall). 1:1.



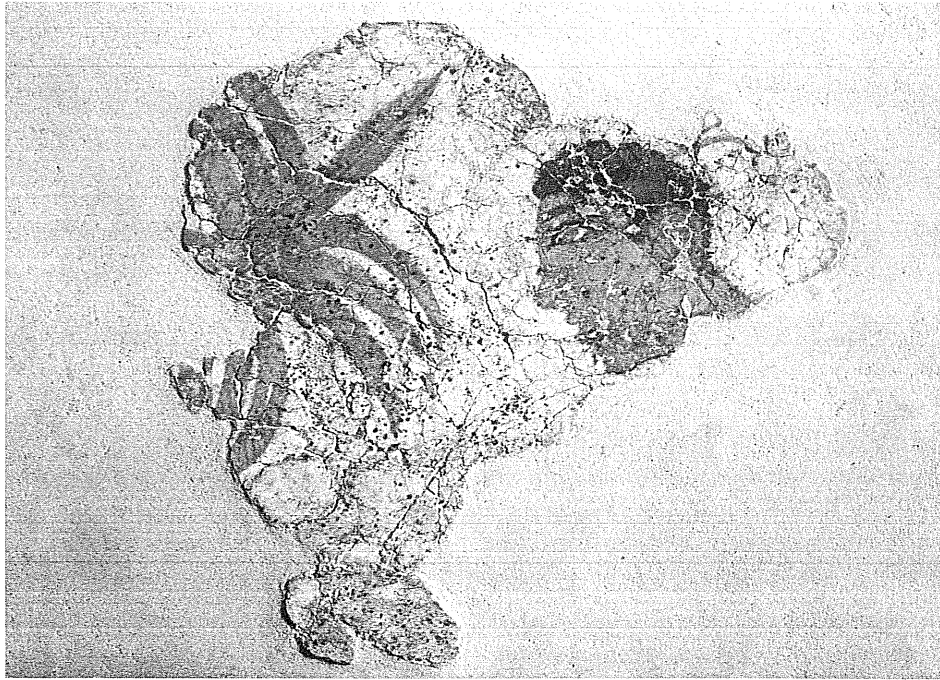
29. Young palm: detail from The Landscape. 1:1.



30. Date palms, *Phoenix dactylifera*.



31. Gold cup from Vapheio, LH I.



32. Man with Palm, fragment of a wall painting from A1, Akrotiri.



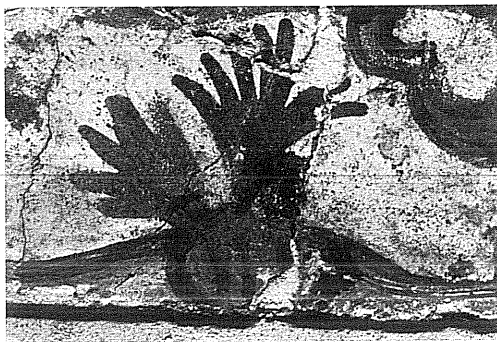
33. Agate seal. Crete, LM Ia. Impression.



34. Agate seal, Aplomata, Naxos, LH III. Impression.



35. Plants (dwarf fan palm?): detail from The Landscape (East Wall). 1:1.



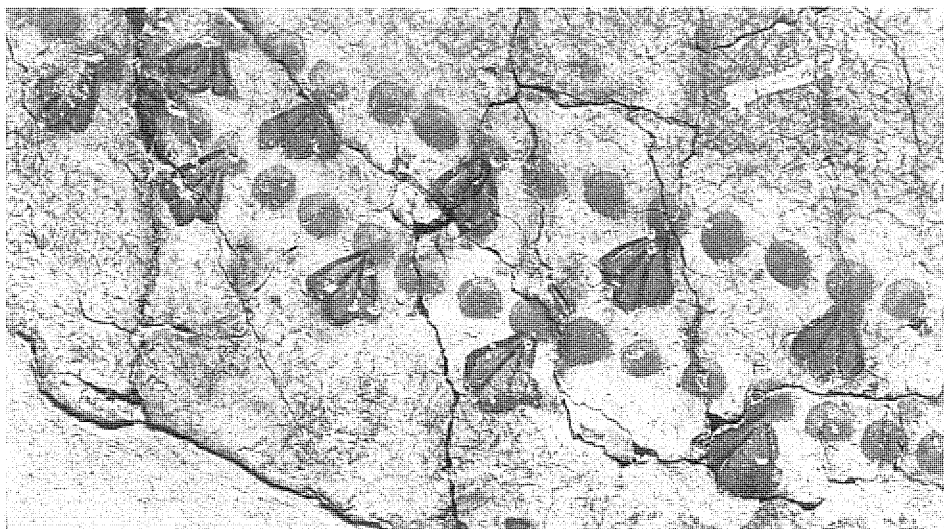
36. Plants (dwarf fan palm?): detail from The Landscape. 1:1.



37. Dwarf fan palm, *Chamaerops humilis*.



38. Two-handled amphora, Δ 3, Akrotiri.



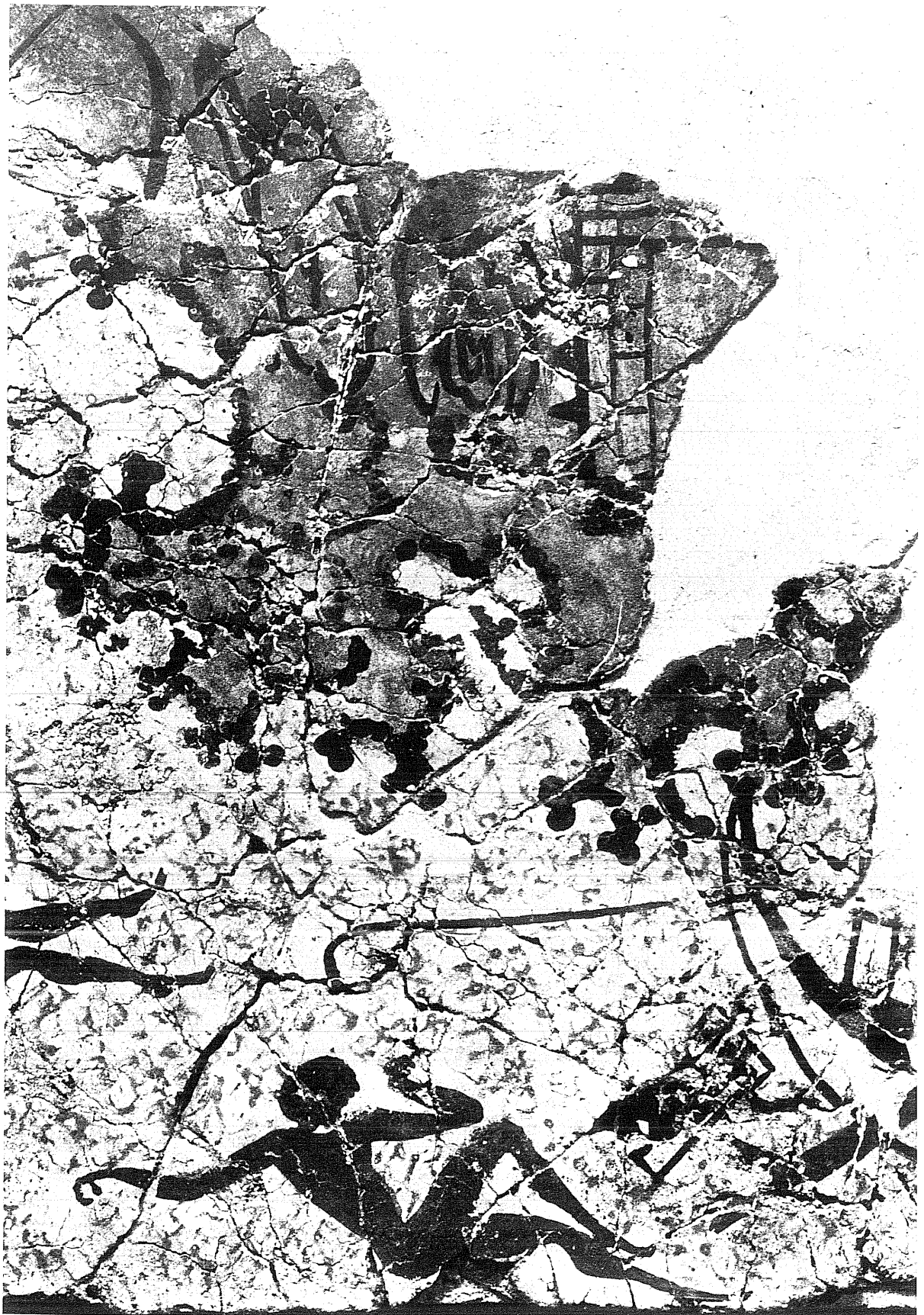
39. Crocus pendants, the dress-ship lines of Ship 2: detail of The Ship Procession (South Wall). 1:1.



40. Detail from the Crocus Gatherers painting, Xesté 3, Akrotiri.



41. Detail of The Priestess panel (hands and brazier), Room 4, the West House. 1:3.



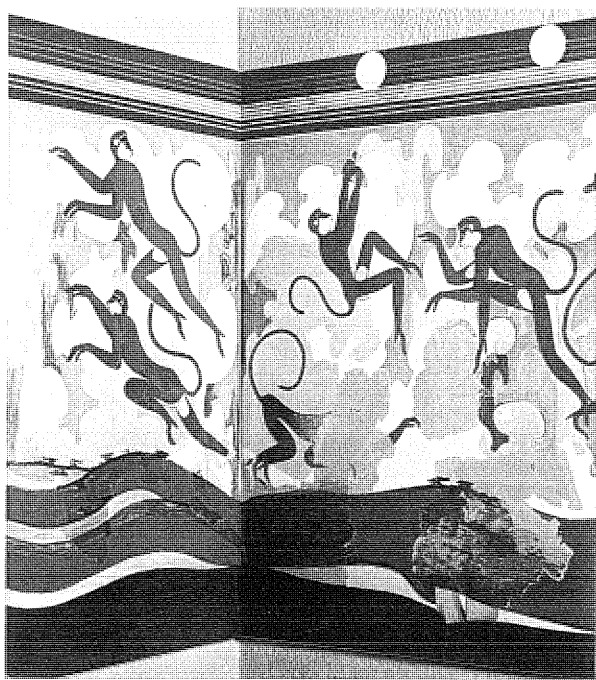
42. Seaweed, coastal building, drowning man: detail from *The Shipwreck* (North Wall). 1:1.



43. River: detail of The Landscape (East Wall). 1:1.



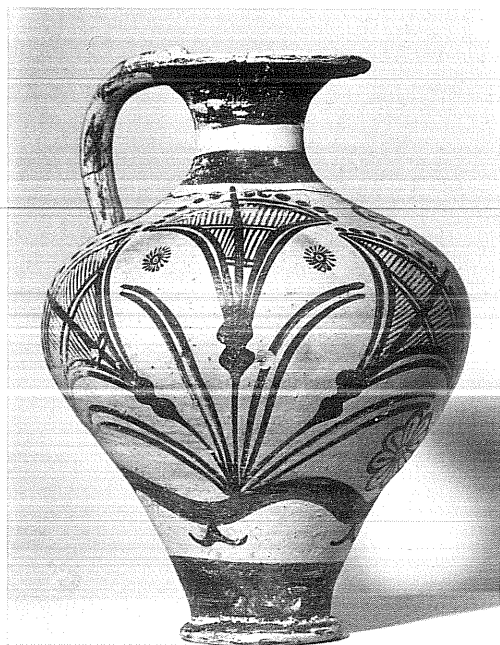
44. River and 'Water' sign: detail of the Departure Area (South Wall). 1:1.



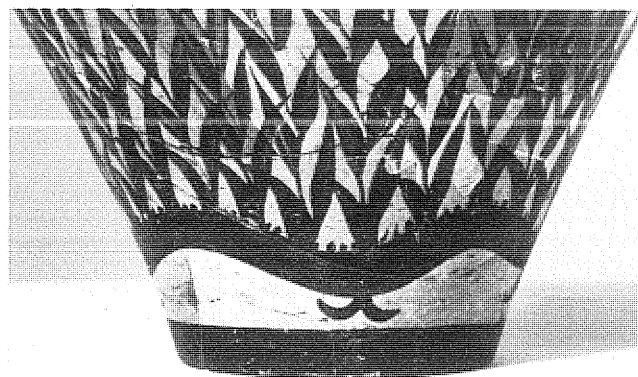
45. The Monkeys painting, B 6, Akrotiri.



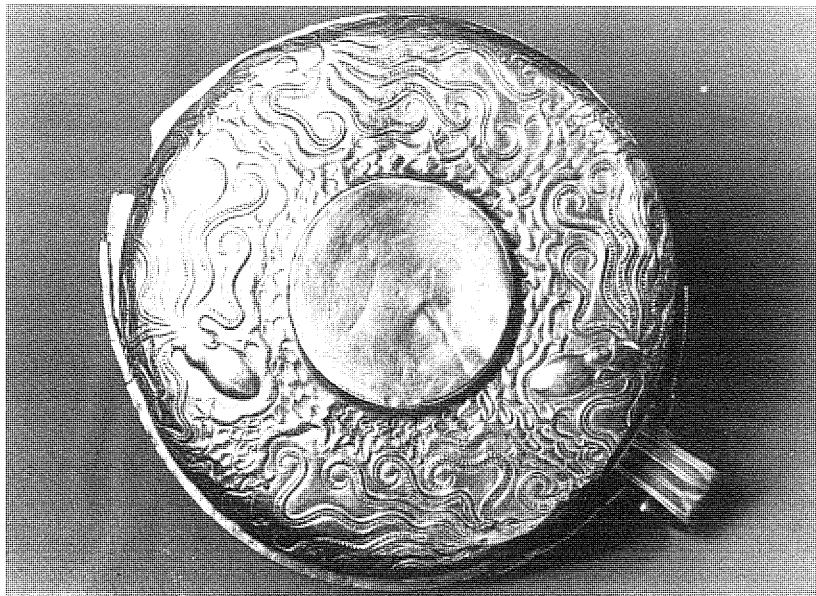
46. Round-based bottle in the Thera Museum.



47. LM Ib oenochoe from Palaikastro showing papyrus and 'river'.



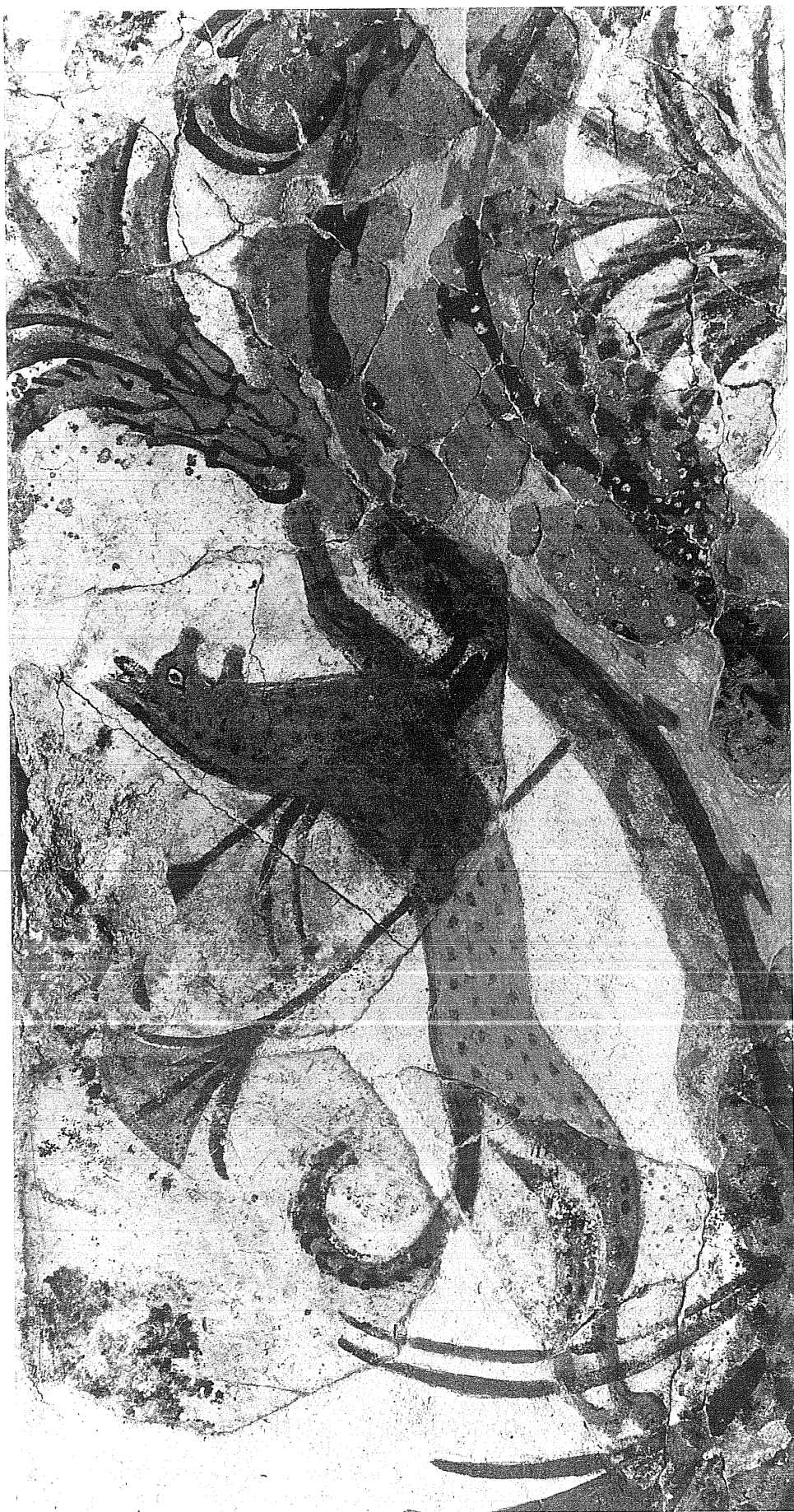
48. Detail of LM Ib jug from Phaistos showing reeds and 'river'.



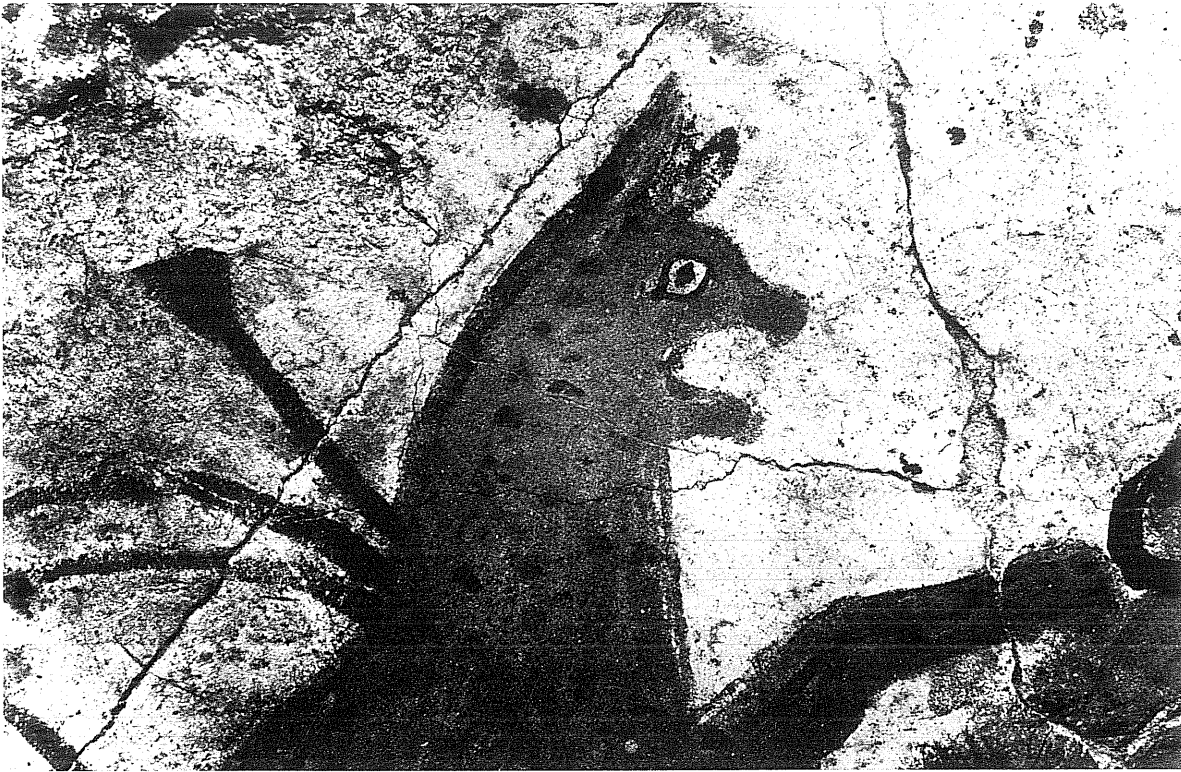
49. Gold cup from Dendra with repoussé decoration, LH II.



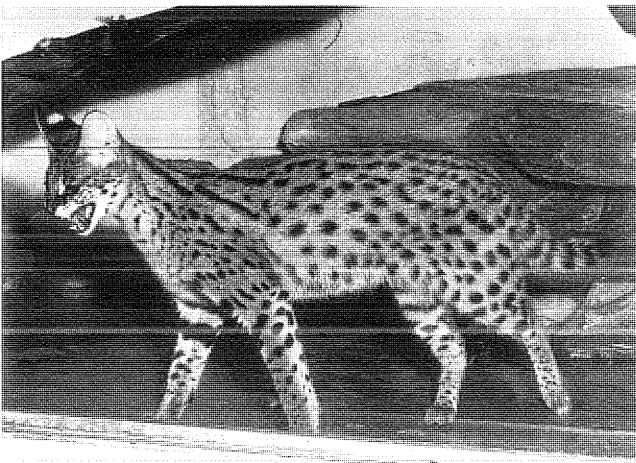
50. Painted stucco table of offerings, Room 4a of the West House, Akrotiri.



51. Cat: detail from The Landscape (East Wall). 1:1.



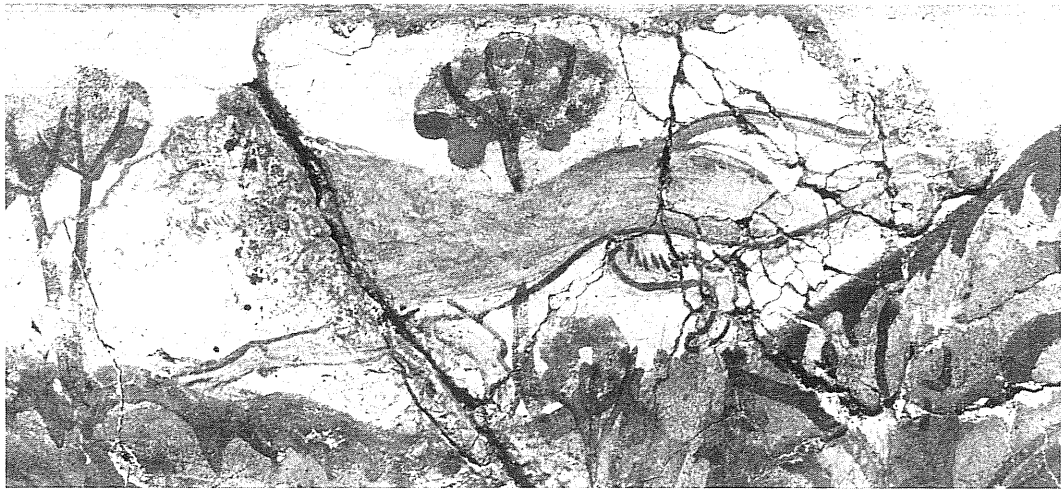
52. Head of the cat: detail from The Landscape. 2:1.



53. Serval, *Felis serval*.



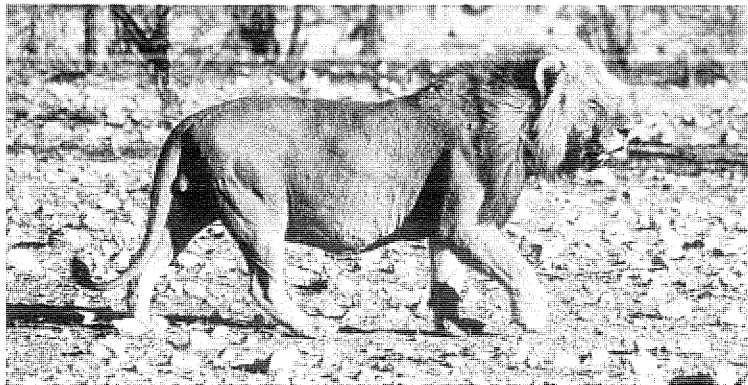
54. Detail of the Cat and Bird painting from Room 14, Ayia Triada.



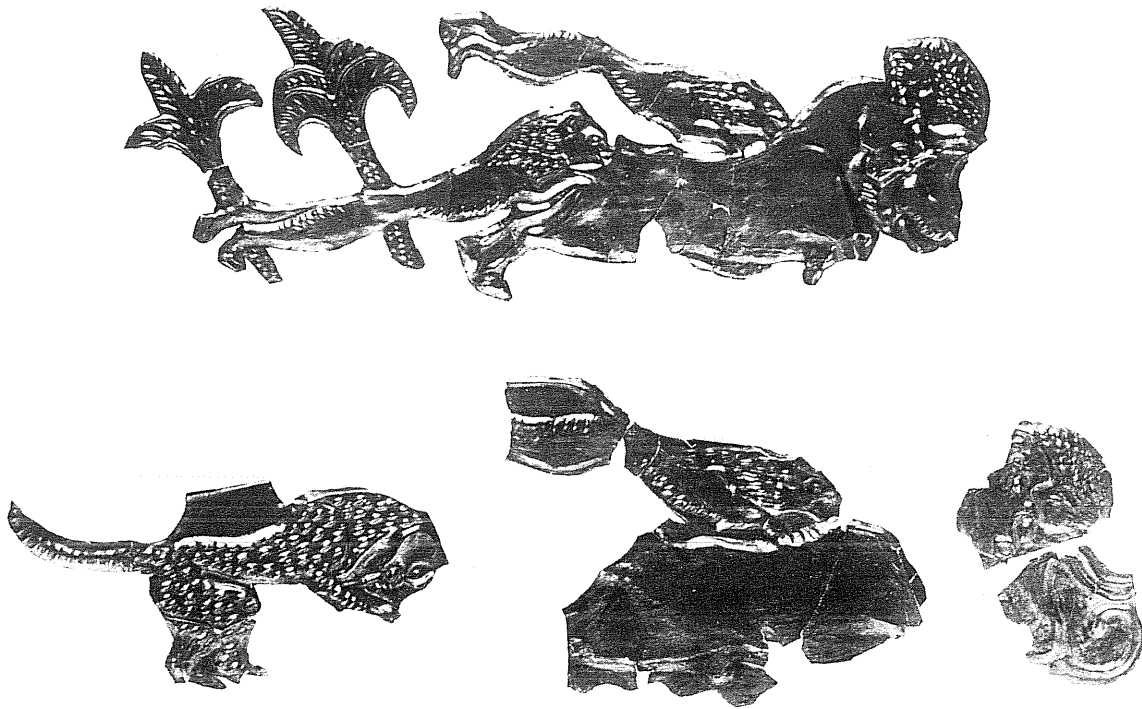
55. Lion: detail from the Departure Area (South Wall). 1:1.



56. Lion motif on the hull of Ship 2: detail of The Ship Procession (South Wall). 1:1.



57. Lion, *Panthera leo*.



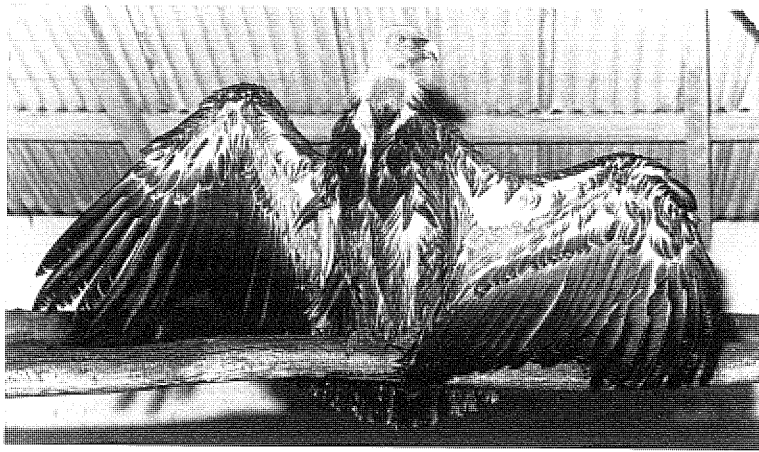
58. Gold inlays of hunting lions, palms and a cat from Shaft Grave III, Mycenae.



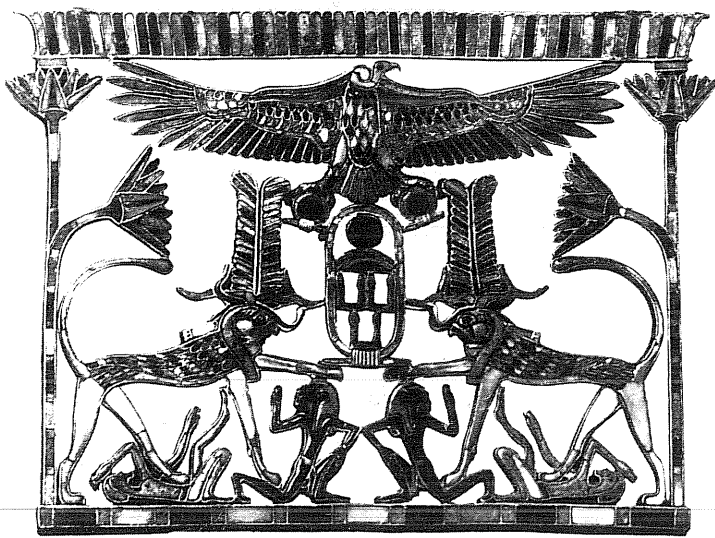
59. Gold plaque from a wooden box, from Shaft Grave V, Mycenae.



60. Griffin: detail from The Landscape (East Wall). 1:1.



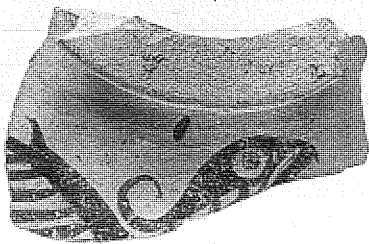
61. Griffon vulture, *Gyps fulvus*.



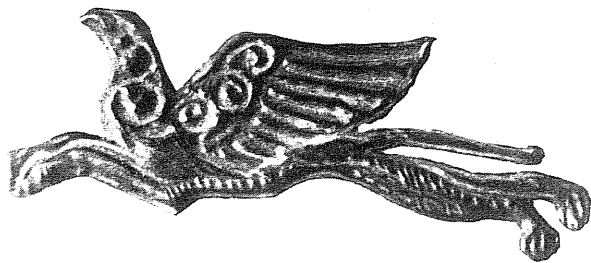
62. Pectoral from the Tomb of Meret, Dashur, reign of Sesostriis III, c. 1800.



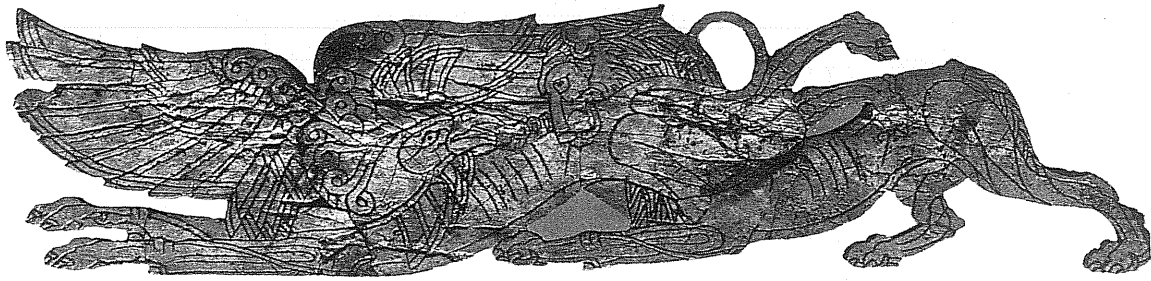
63. Ceremonial axe-blade, Thebes, Ahmose I (1570–1545).



64. MC III sherd from Phylakopi, Melos.



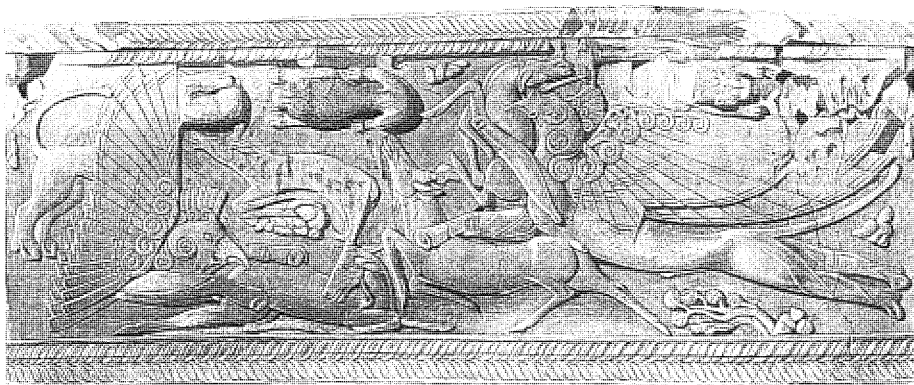
65. Gold cut-out of a griffin, from Shaft Grave III, Mycenae.



66. Ivory plaque from the Artemision, Delos.



67. Ivory pyxis and lid, Athens Agora, LH IIIa, c. 1400.



68. Drawing by Piet de Jong of the design on the Athens Agora ivory pyxis.



69. Ivory mirror handle from Kouklia, Evreti tomb 8, Late Cypriote III.



70. Ivory mirror handle from Enkomi tomb 73, Late Cypriote III.



71. Ivory mirror handle from Enkomi tomb 24 (side '1'), Late Cypriote III.



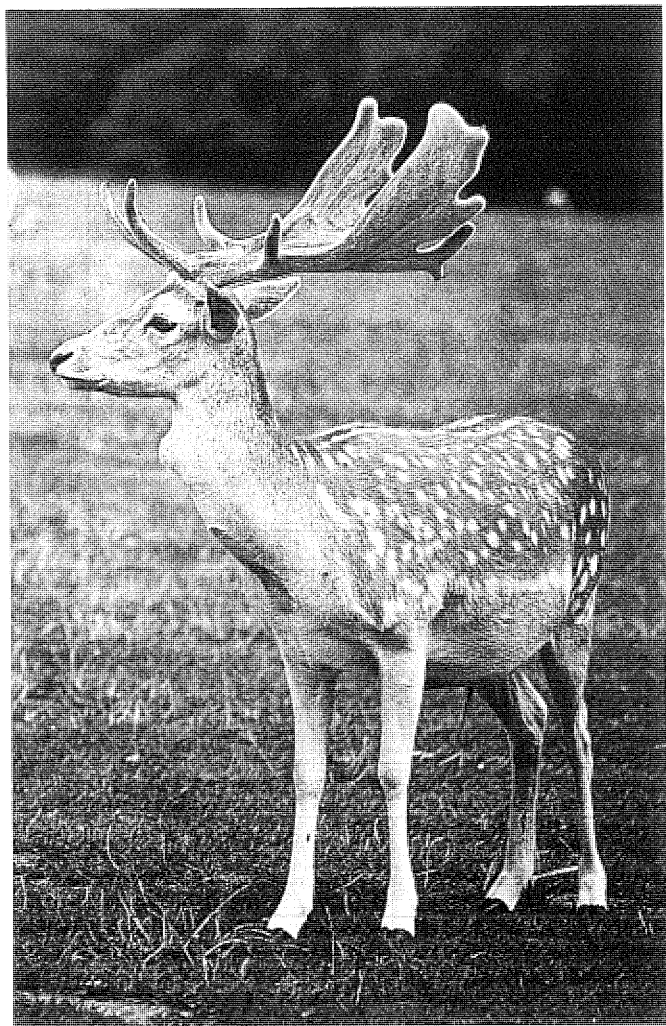
72. Ivory mirror handle from Enkomi tomb 24 (side '2'), Late Cypriote III.



73. Deer: detail from The Landscape (East Wall). 1:1.



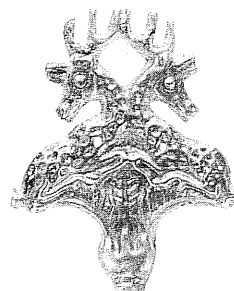
74. Deer: detail from the Departure Area (South Wall), 1:1.



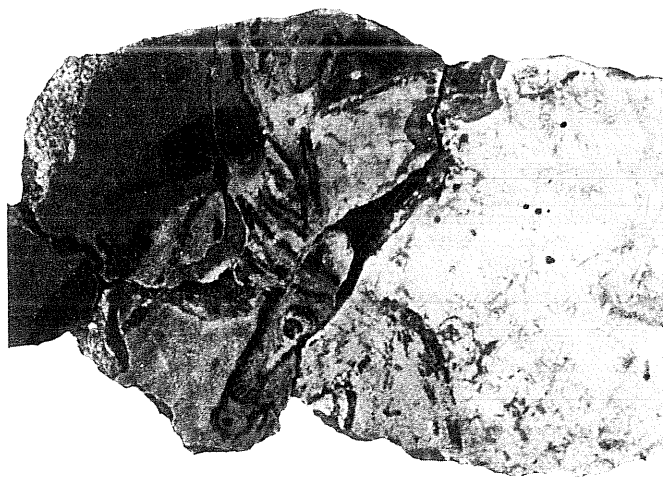
75. Fallow deer, *Dama dama*, male.



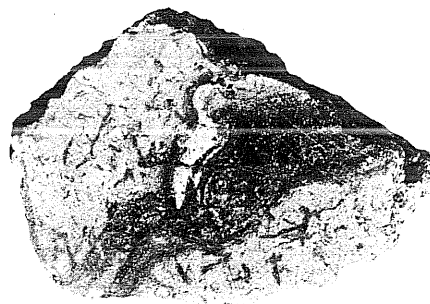
76. Agate lentoid sealstone,
Megalo Kastelli, Thebes.
Impression.



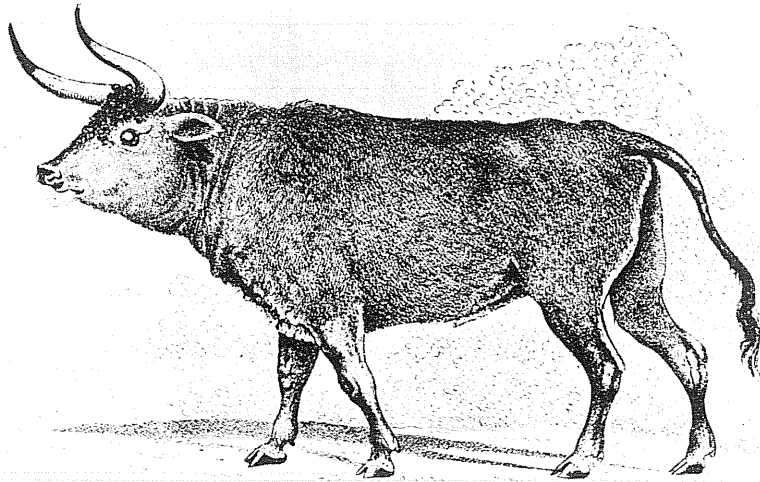
77. Gold cut-out of deer on a
palm, from Shaft Grave III,
Mycenae.



78. A deer, fragment of a wall painting from
Pylos.



79. An animal (deer?), fragment of the
Hunt Fresco from Tiryns, Second
Palace.



80. Aurochs, *Bos primigenius*.



81. Calf led by men: detail from the Arrival Area (South Wall). 1:1.



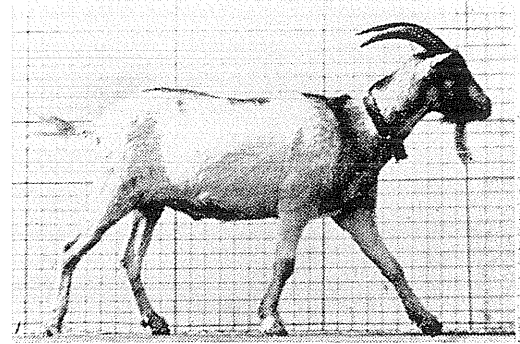
82. Sheep and goats: detail from the Pastoral Scene (North Wall), 1:1.



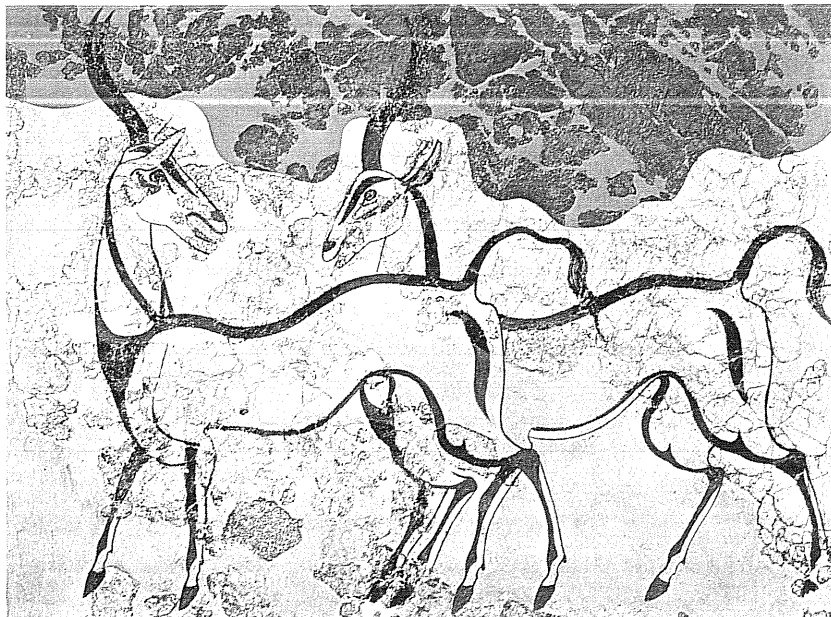
83. Mouflon sheep. *Ovis musimon*.



84. Agrimi (Cretan wild goat), *Capra aegagrus cretensis*.



85. Photograph of a goat walking.



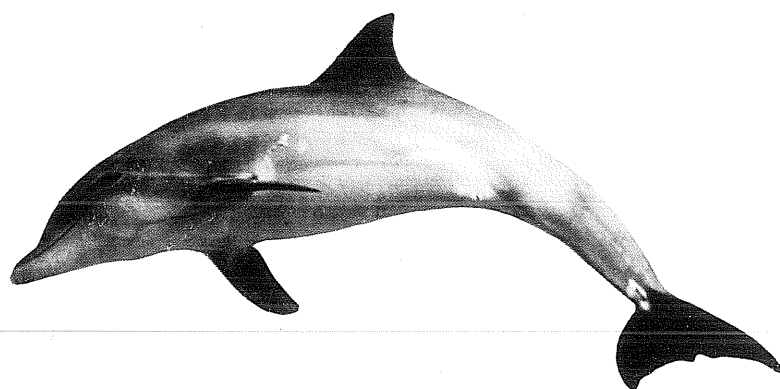
86. The Antelopes painting, B1, Akrotiri.



87. Dolphins: detail of The Ship Procession (South Wall). 1:1.



88. Dolphins: detail of The Ship Procession. 1:1.



89. Common dolphin, *Delphinus delphis*.



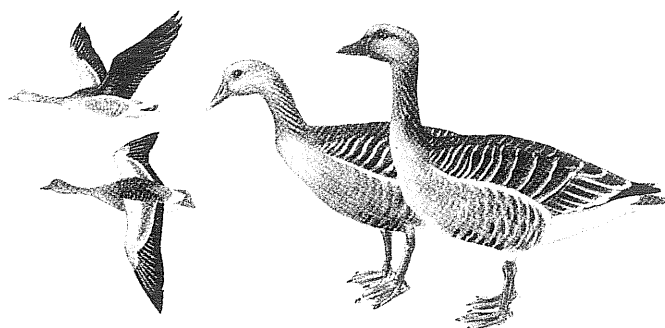
90. Dolphins as prow motif: detail of The Ship Procession. 1:1.



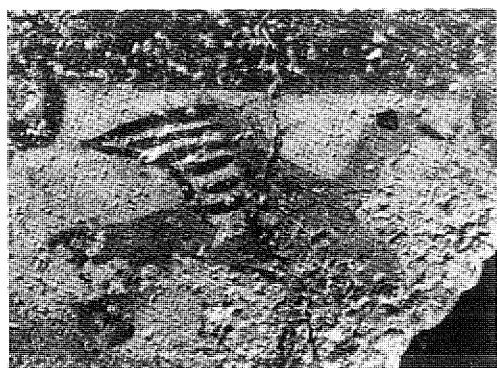
91. Flying goose: detail of The Landscape (East Wall). 1½:1.



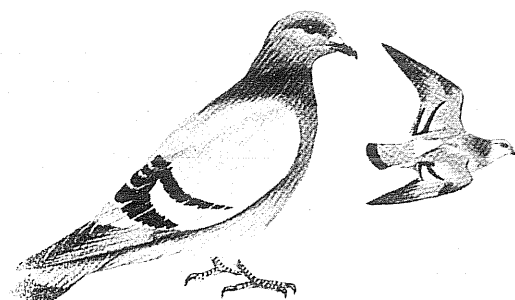
92. Preening goose: detail of The Landscape. 1½:1.



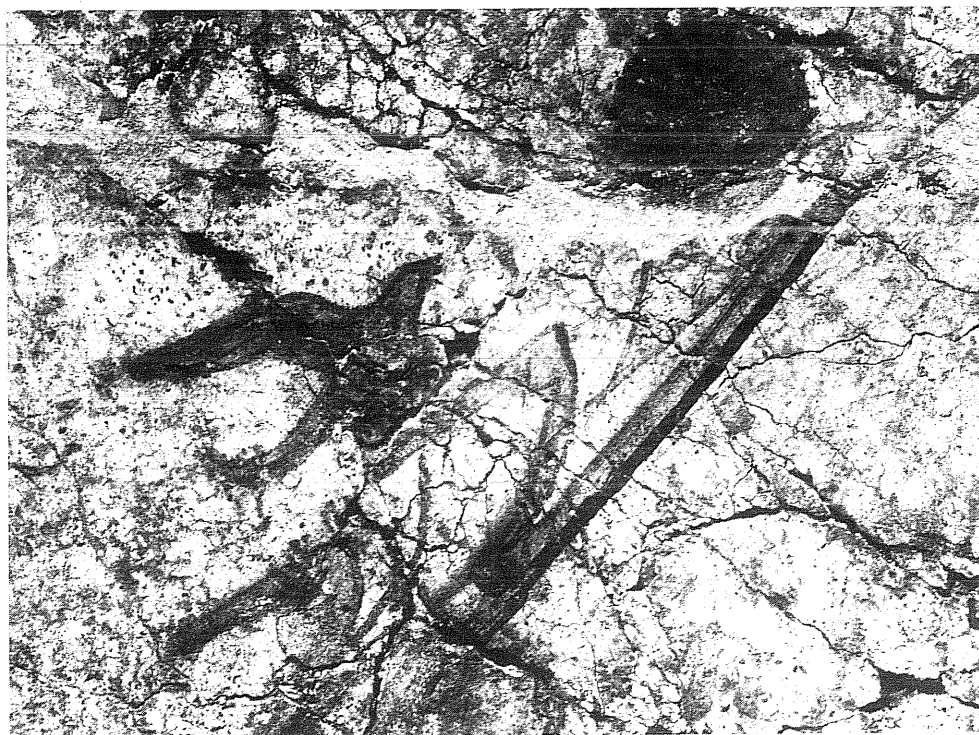
93. Greylag goose, *Anser anser*.



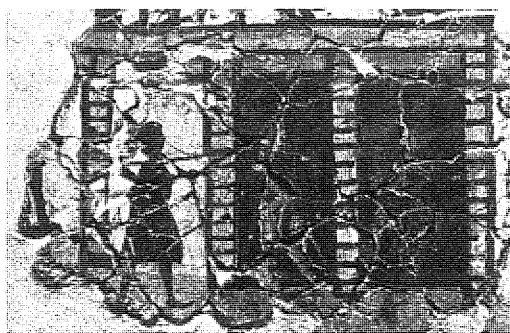
94. Bird motif on the hull of the Sailing Ship: detail from The Ship Procession (South Wall). c. 1½:1.



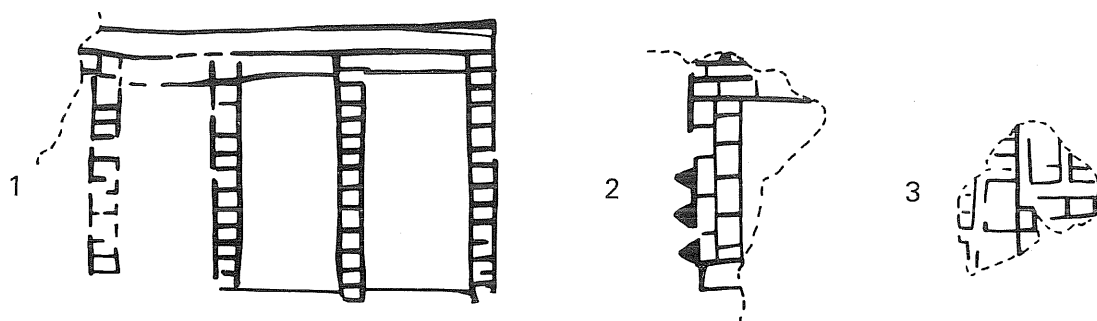
95. Rock dove, *Columba livia*.



96. Bird as prow motif: detail of The Ship Procession (South Wall). 1½:1.



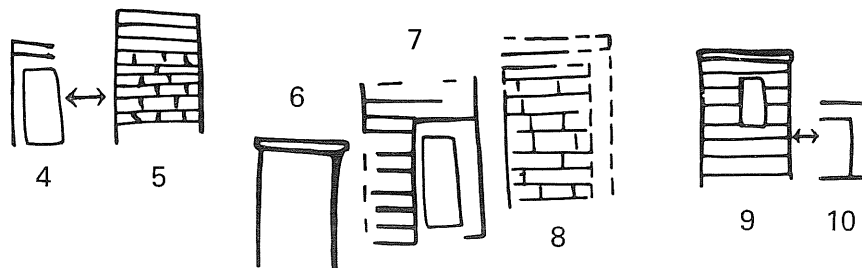
97. Pastoral building: detail from the Pastoral Settlement (North Wall). 1:2.



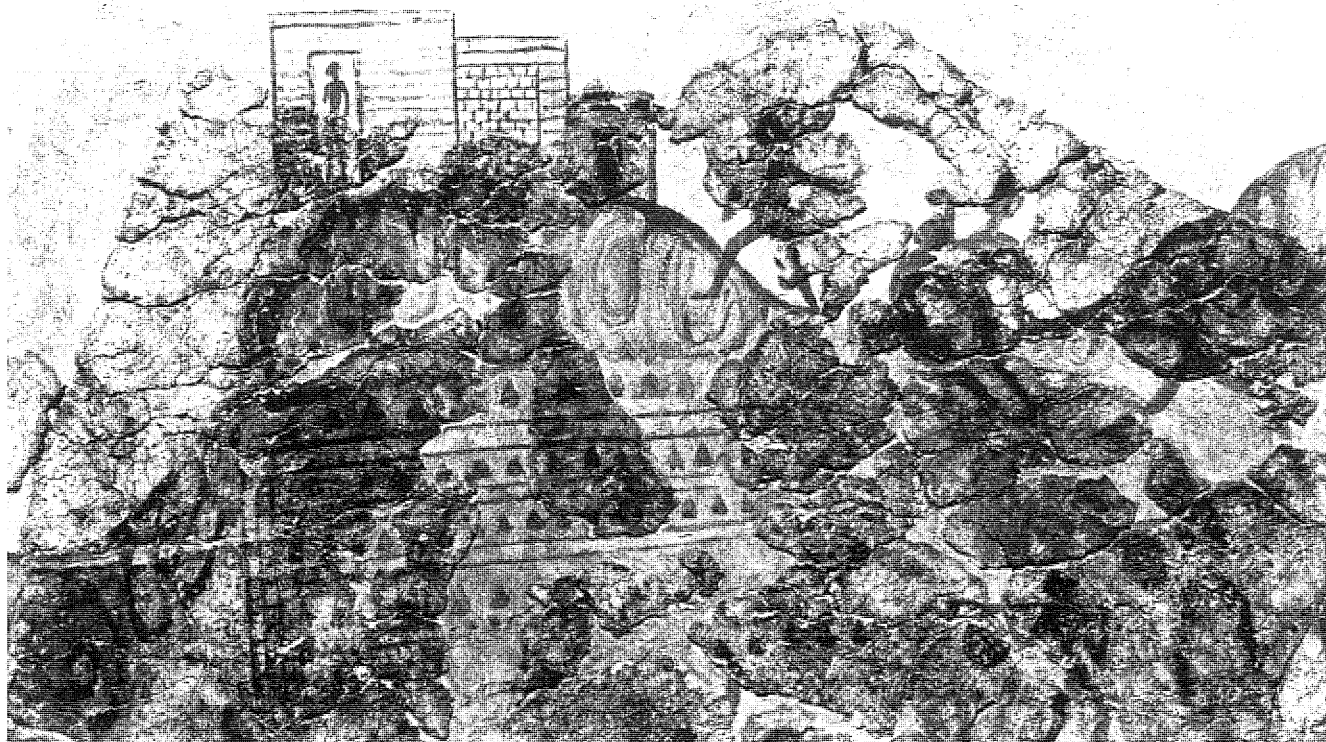
98. Drawing of the buildings of the Pastoral/Coastal Settlement of the North Wall. Nos. 1–3. (1) pastoral building; (2) warrior fragment; (3) coastal building. 1:2.



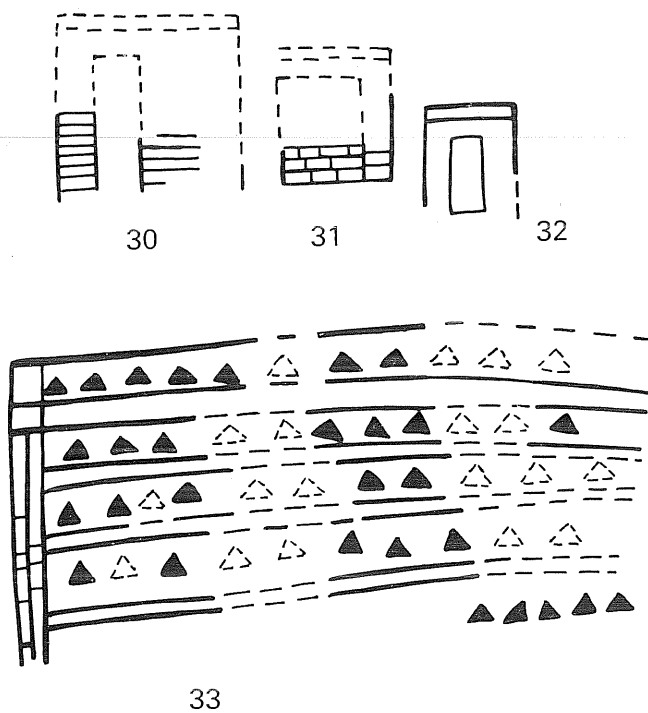
99. Outlying buildings: detail of the Departure Town (South Wall). 1:2.



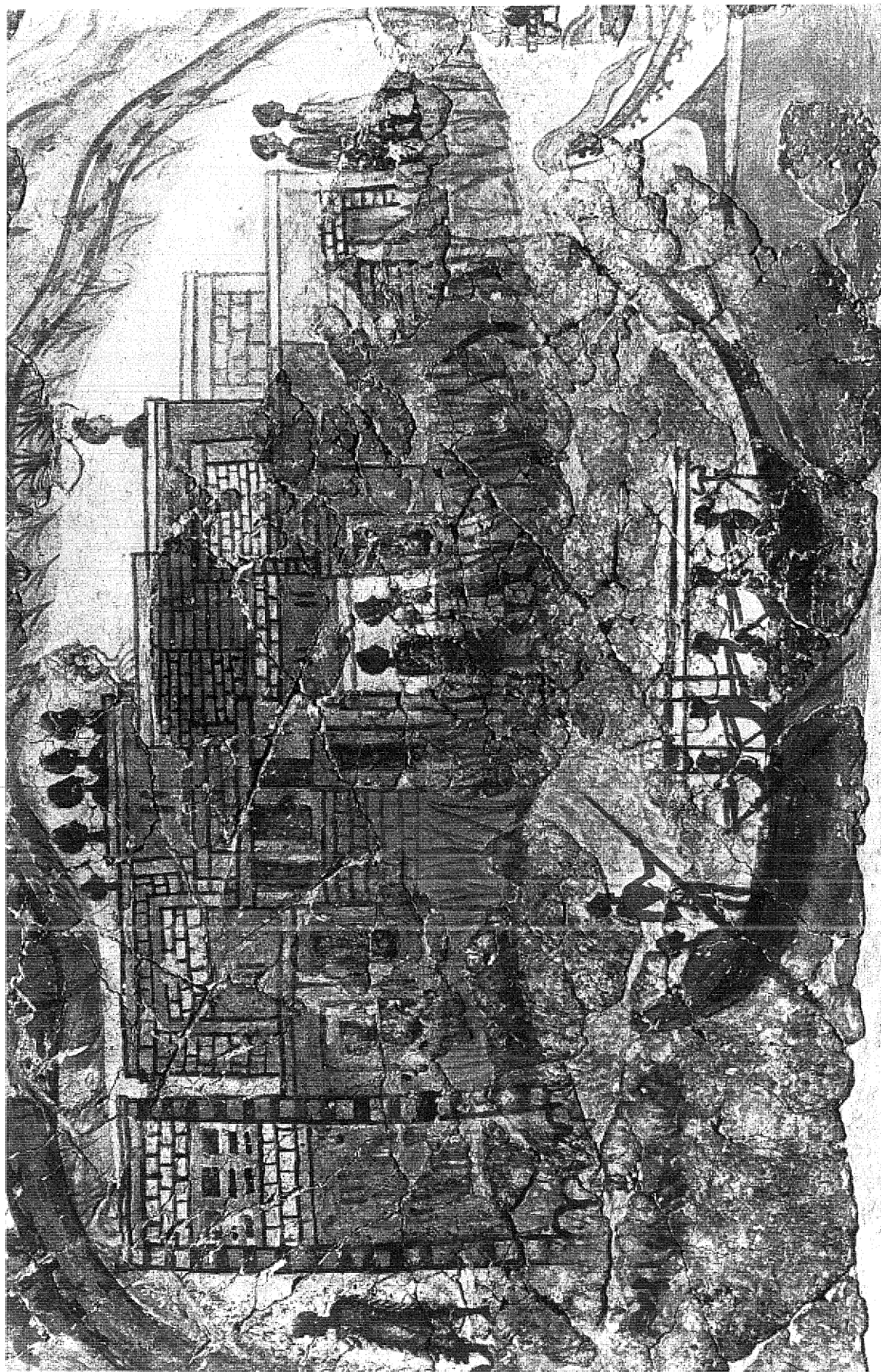
100. Drawing of the outlying buildings of the Departure Town, Nos. 4–10. 1:2.



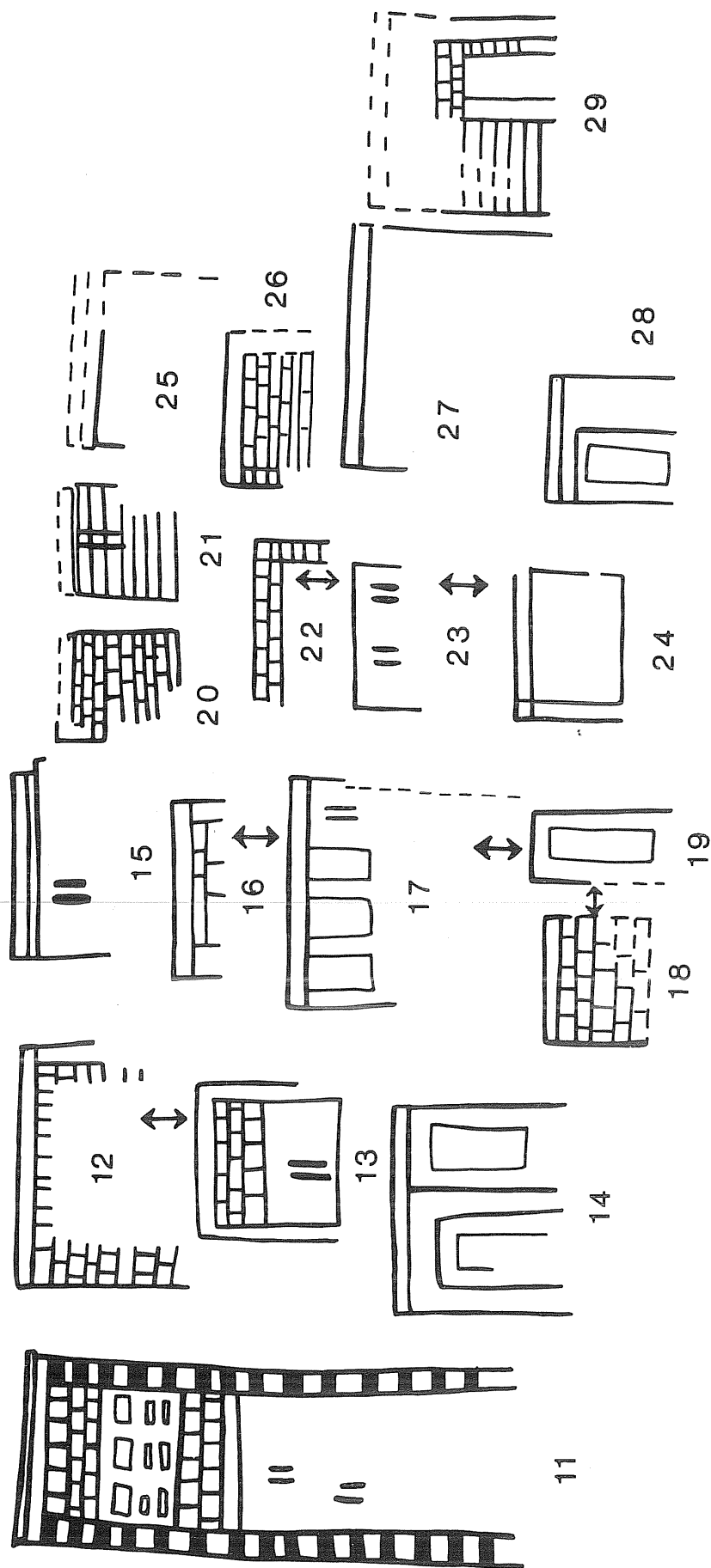
101. Buildings of the Arrival Harbour (South Wall). 1:2.



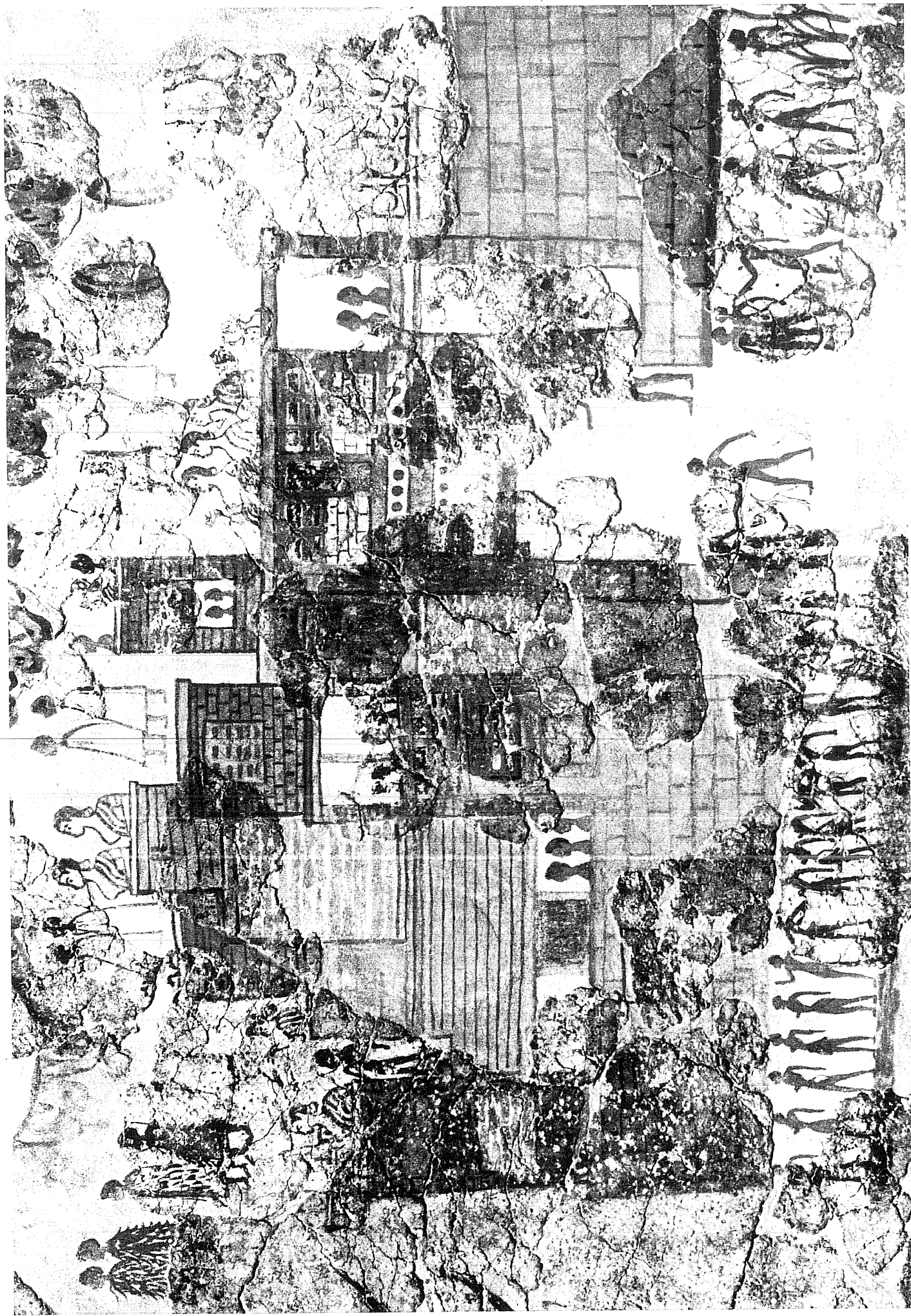
102. Drawing of the buildings of the Arrival Harbour. Nos. 30–3. (30–32) hill-top buildings; (33) 'rock-cut' building. 1:2.



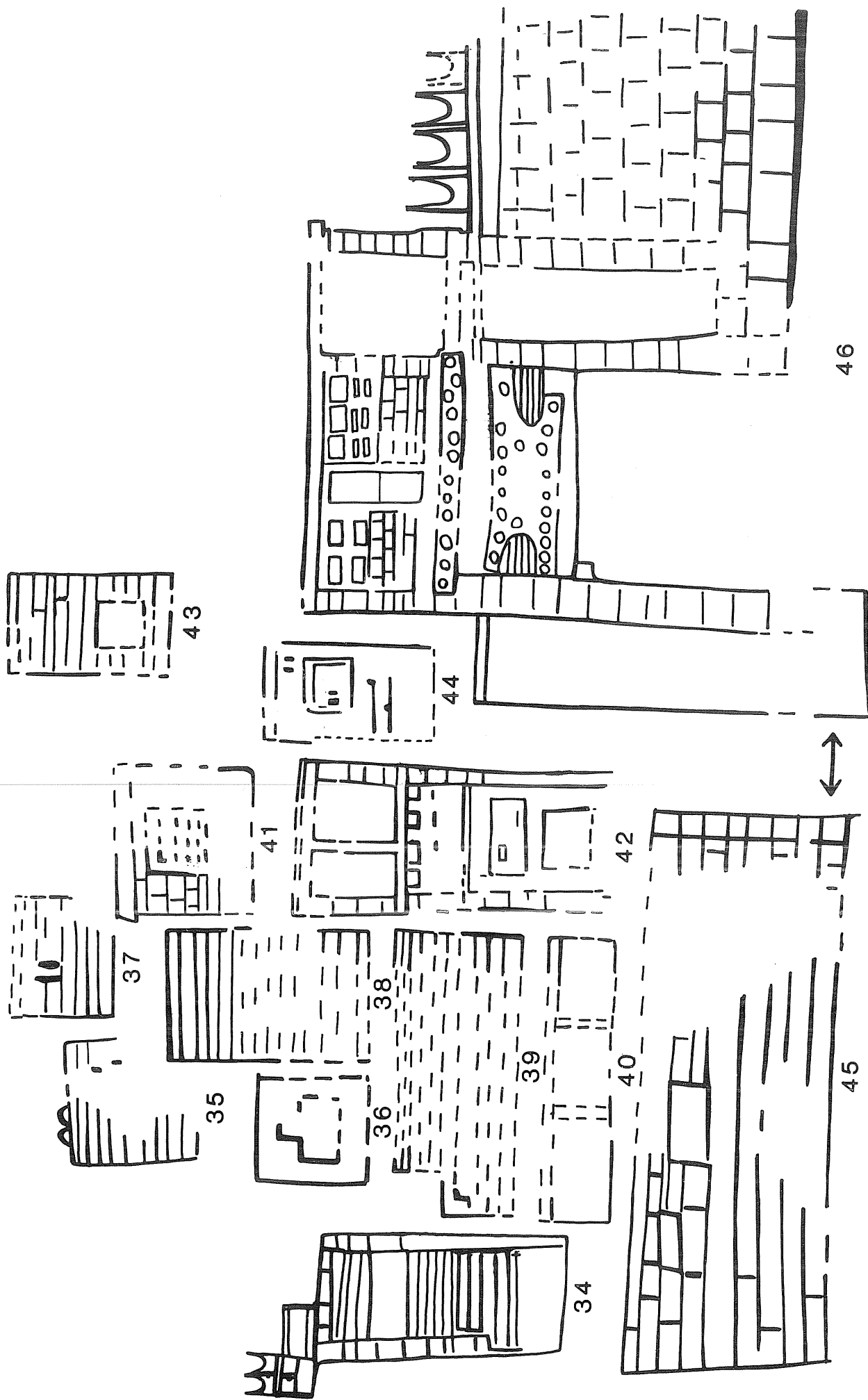
103. The Departure Town (South Wall). 1:2.



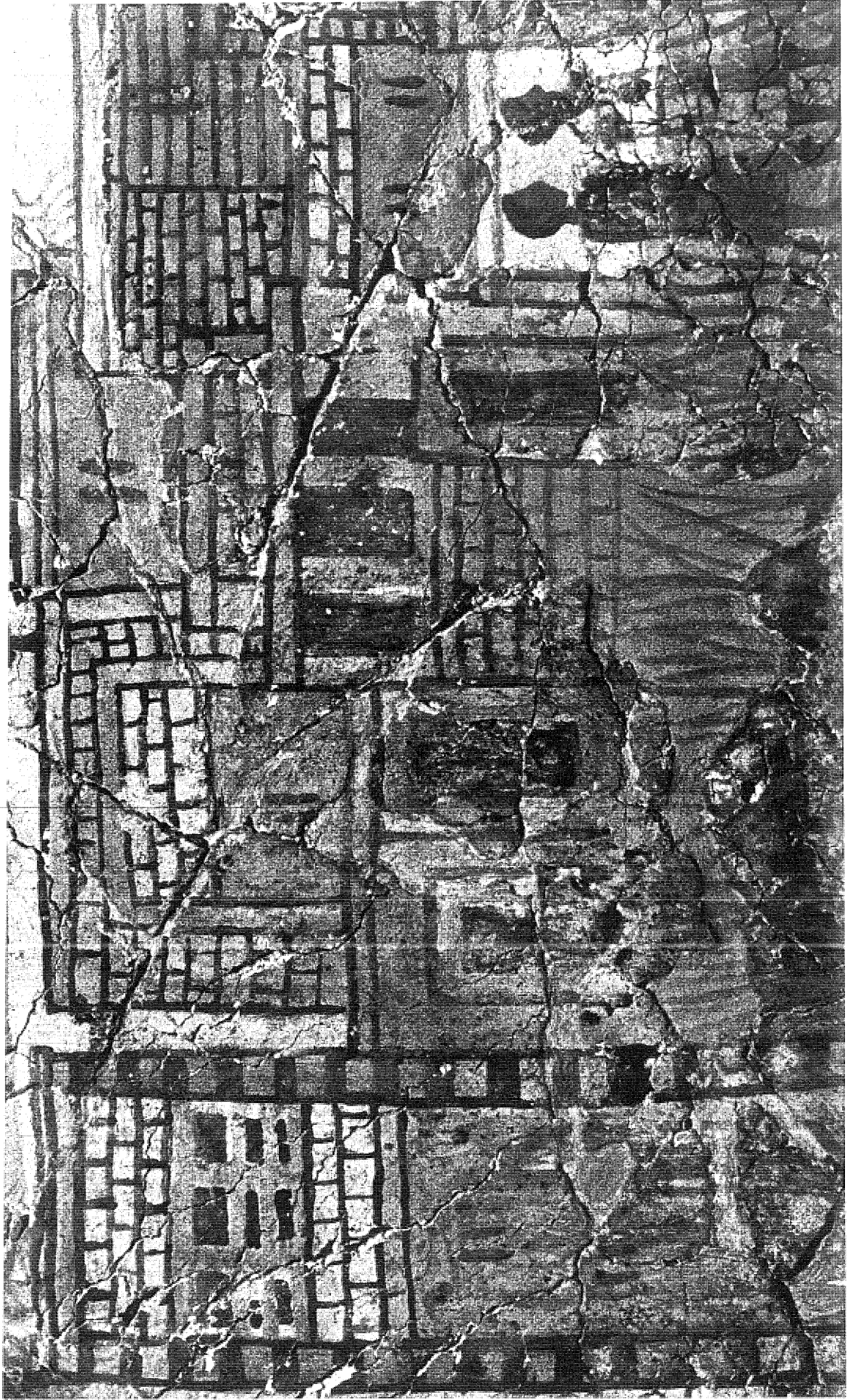
104. Drawing of the buildings of the Departure Town, Nos. 11-29. 1:2.



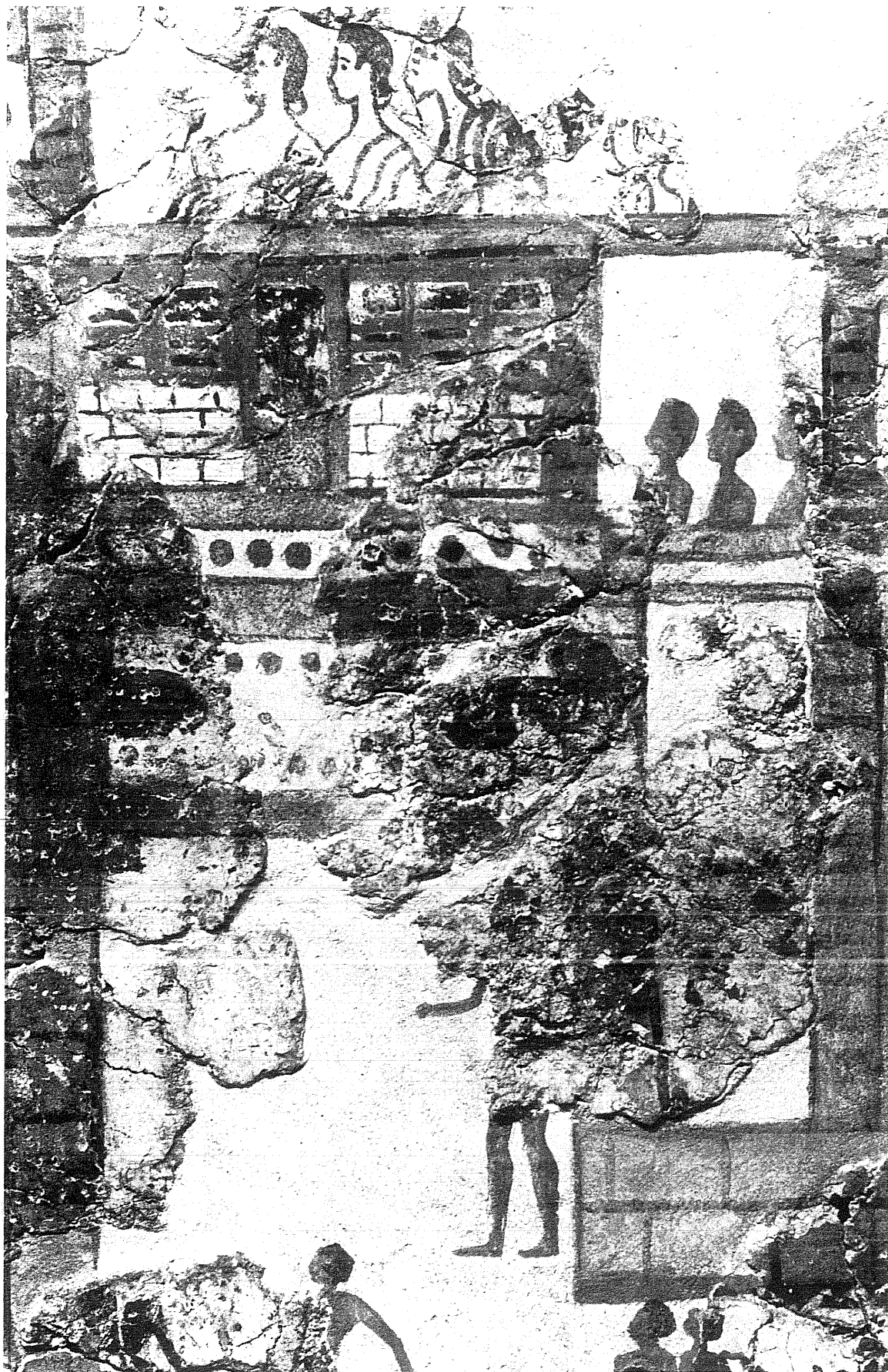
105. The Arrival Town (South Wall). 1:2.



106. Drawing of the buildings of the Arrival Town. Nos. 34-46. 1:2.



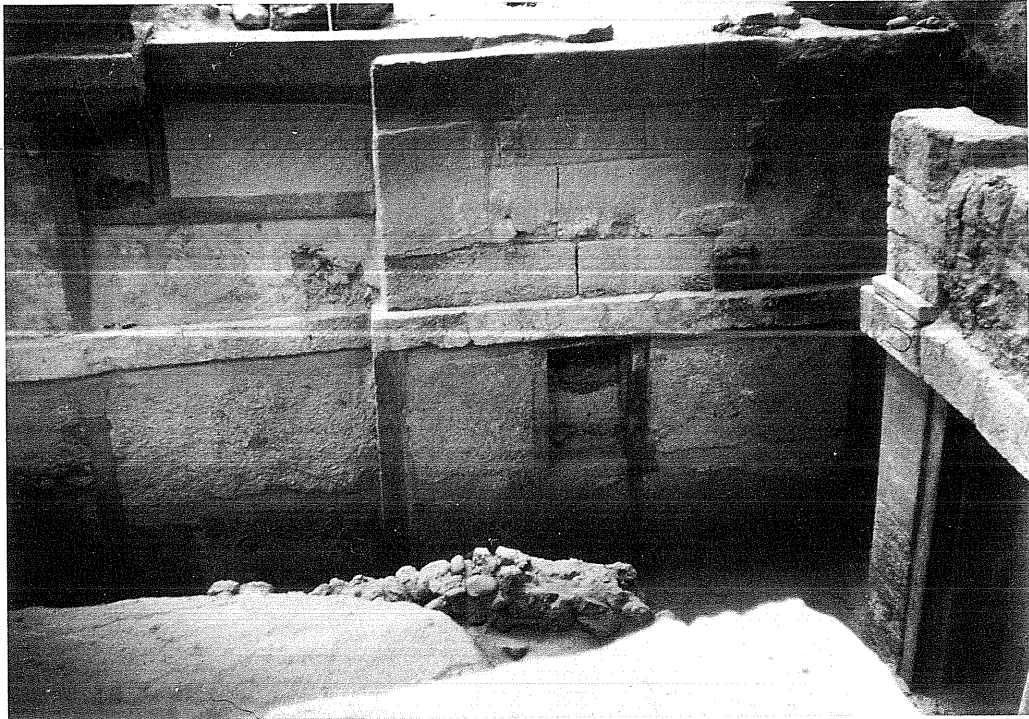
107. The Departure Town, detail. 1:1.



108. The gateway: detail of the Arrival Town. 1:1.



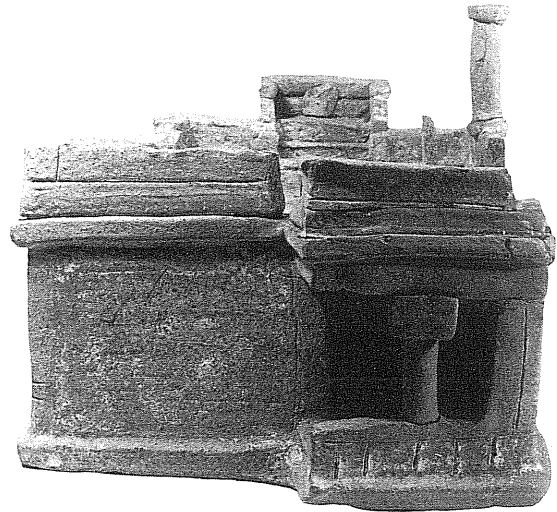
109. The façade of the West House, Akrotiri.



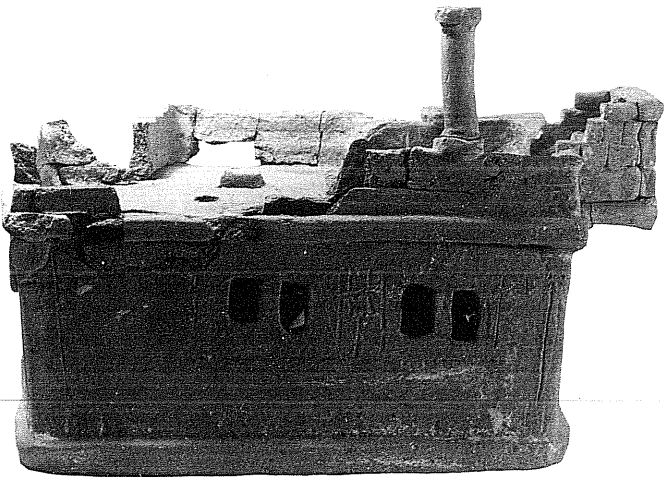
110. The façade of Xesté 2, Akrotiri.



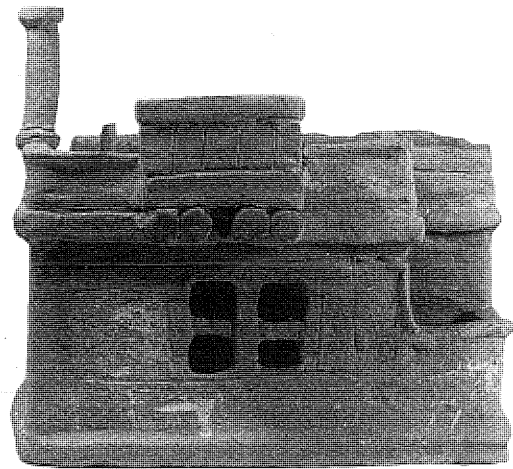
A



B

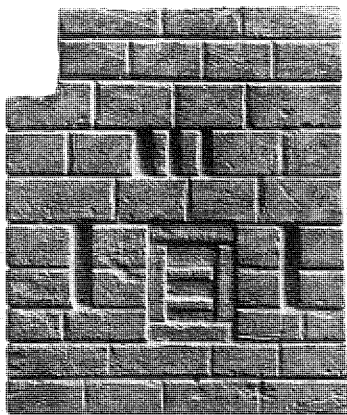


C

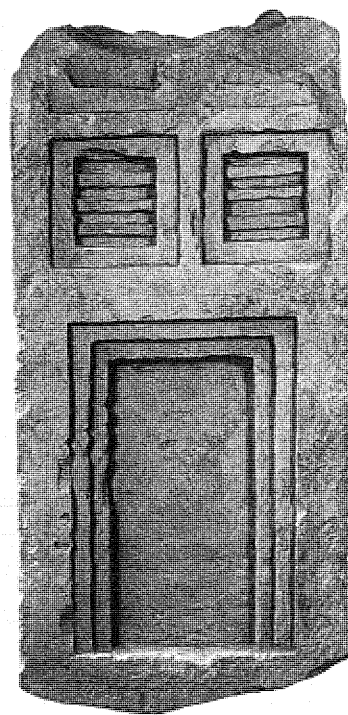


D

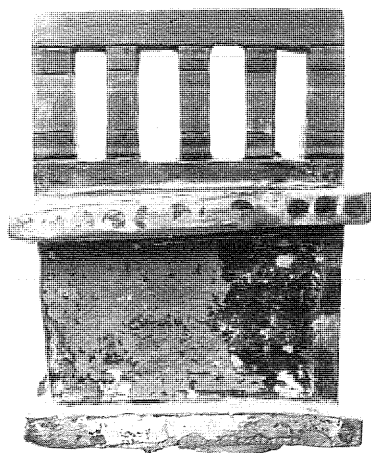
111. Clay house model from Archanes, MM IIIa.



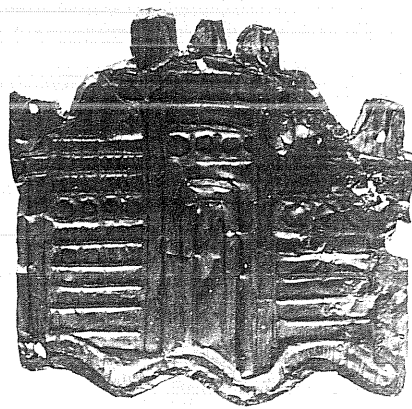
112. Ivory house façade, Royal Road, Knossos (LM IIIa context).



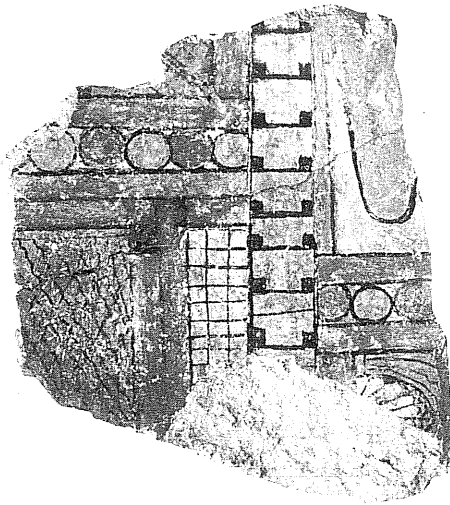
113. Stone carved with house façade, Vyzakia near Hala Sultan Tekke, Late Cypriote IIIa.



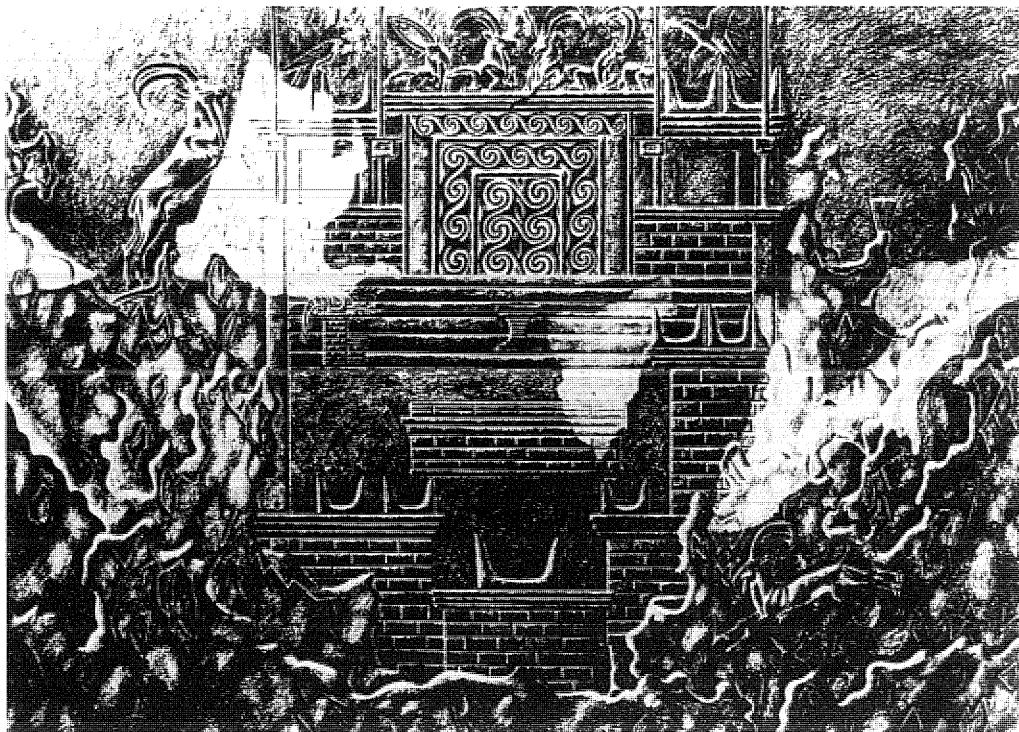
114. Clay model of a shrine, Loom Weight Basement, Knossos, MM IIb.



115. Gold plate façade of a shrine, Volos, LH IIIa.



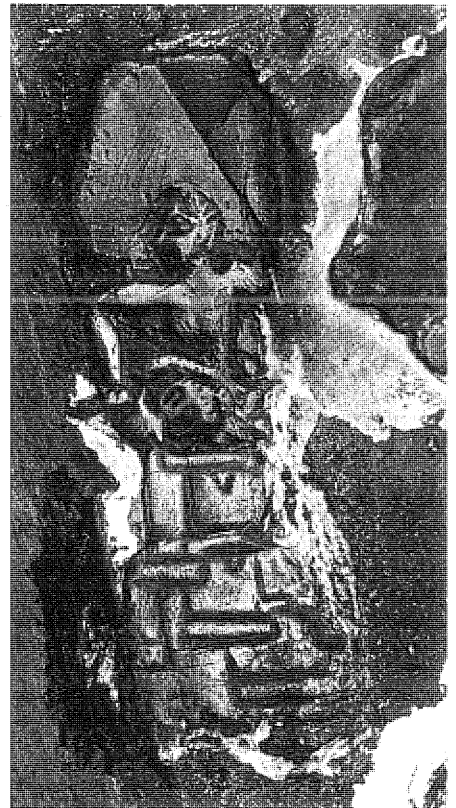
116. A building with horns of consecration, fragment of a wall painting from Pylos. c. 1:2.



117. Two-dimensional projected drawing of the Sanctuary Rhyton from Zakros, chlorite, MM IIIb-LM I.



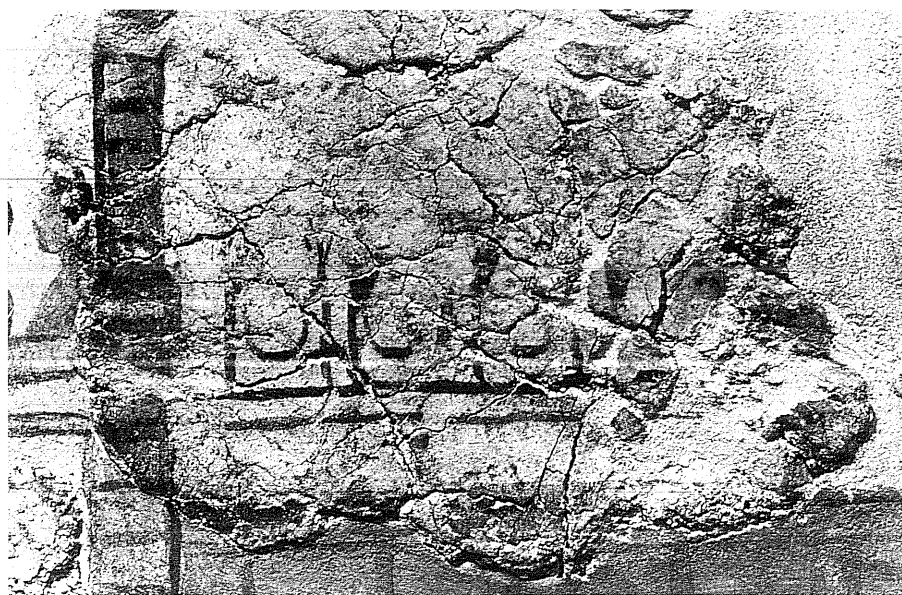
118. Men and woman on rooftops: detail of the Departure Town (South Wall). 1:1.



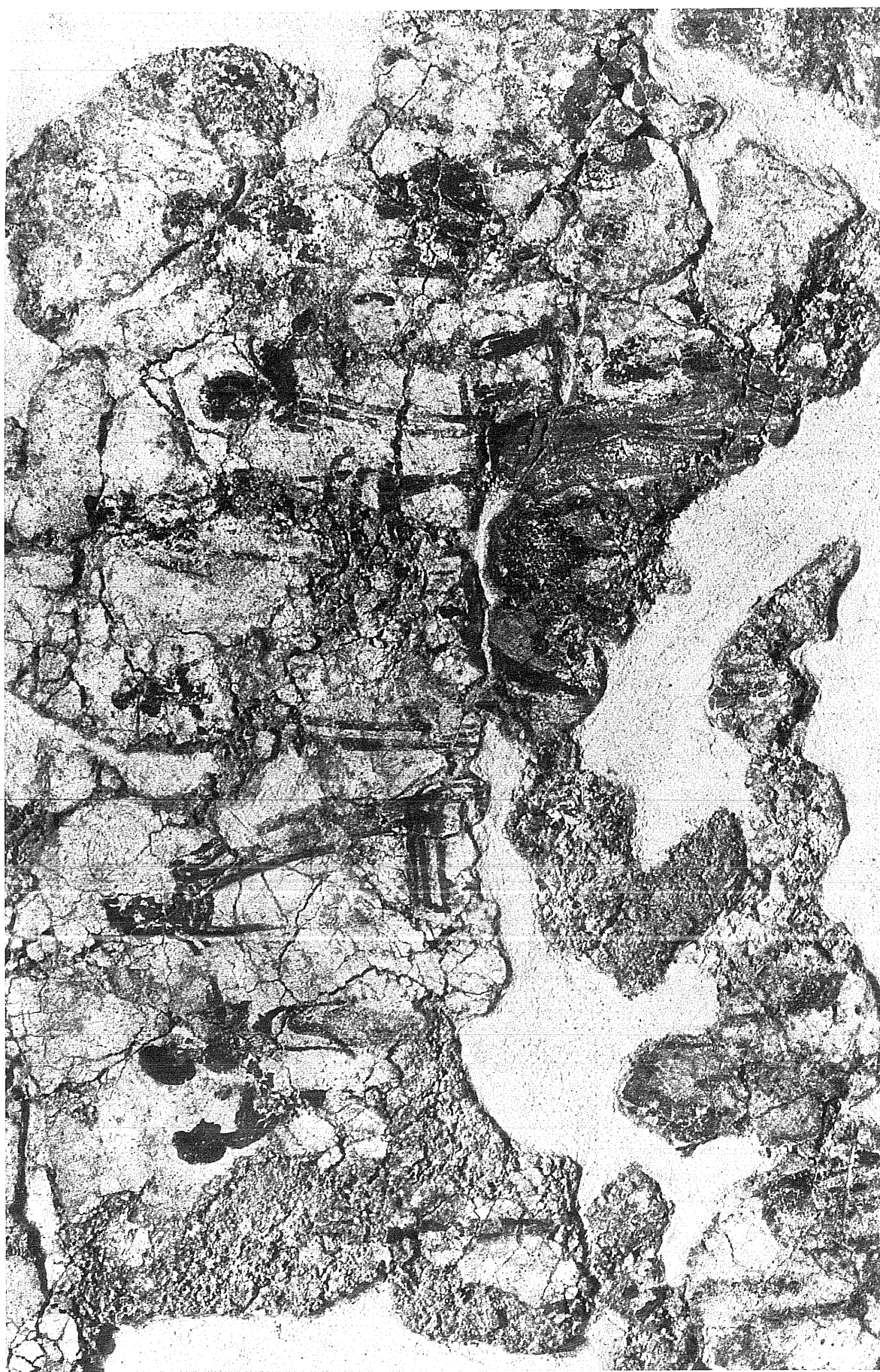
119. Fragment from the Siege Rhyton, Shaft Grave IV, Mycenae.



120. Women on balconies before horns of consecration: detail from the Arrival Town (South Wall). 1:1.



121. Horns of consecration on the town wall: detail from the Arrival Town (South Wall). 1:1.



122. The summit of The Meeting on the Hill (North Wall). 1:1.



123. Two men in white robes: detail from The Meeting on the Hill (North Wall). 1½:1.



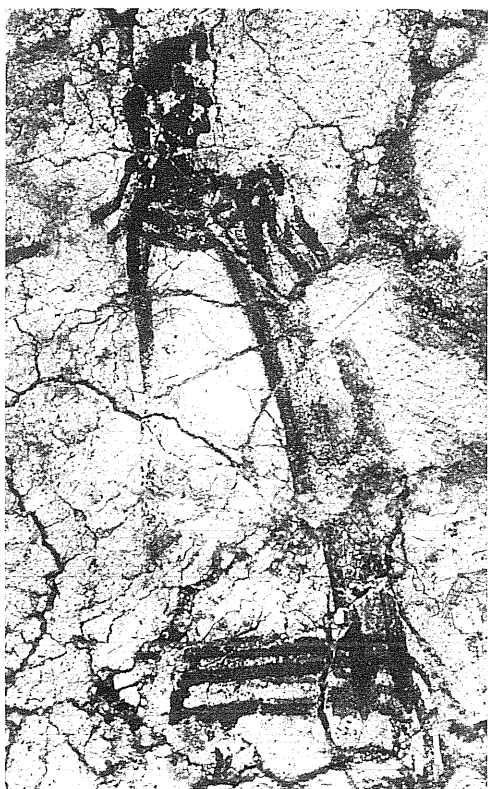
124. Jasper elongated amygdaloid sealstone, Knossos.



125. Two men in loin-cloths with arm gesture: detail from The Meeting on the Hill (North Wall). 1½:1.



126. Helmsman and man with arm gesture: detail from Ship 1 in The Ship Procession (South Wall). 1½:1.



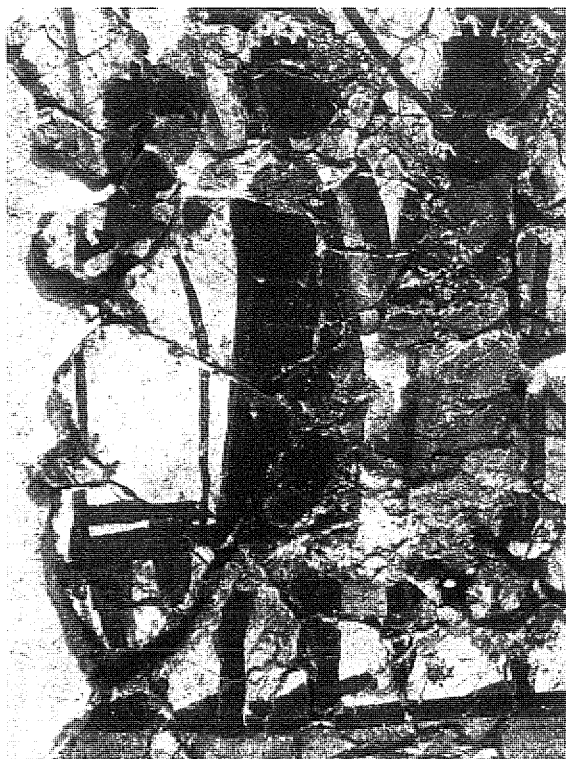
127. Man in white robe: detail from The Meeting on the Hill (North Wall). 1½:1.



128. Two robed passengers: detail from The Ship Procession (South Wall). 1½:1.



129. Robed man holding stick: detail from The Meeting on the Hill (North Wall). 1½:1.



130. Three robed men: detail from the Pastoral Settlement facing The Meeting on the Hill (North Wall). 1½:1.



131. Greek shepherd wearing a goats'-hair cape.



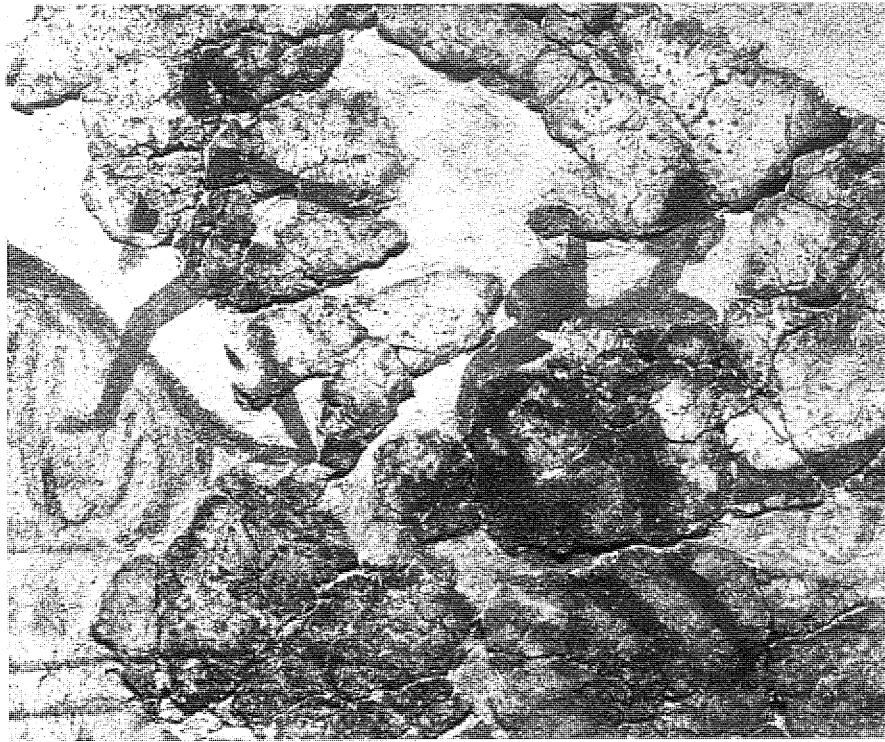
132. Robed man with stick: detail from the Pastoral Settlement (North Wall). 1½:1.



133. Two men in hairy capes: detail from the Departure Town (South Wall). 1½:1.



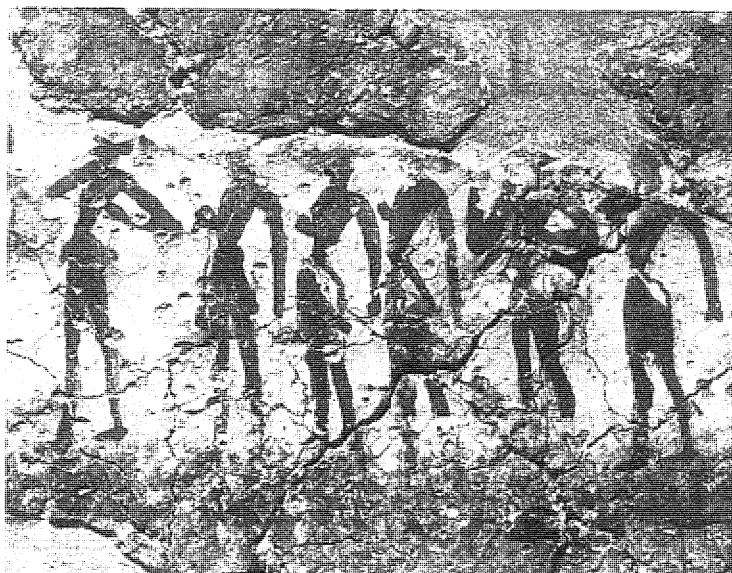
134. Two men in hairy capes: detail from the Arrival Town (South Wall). 1½:1.



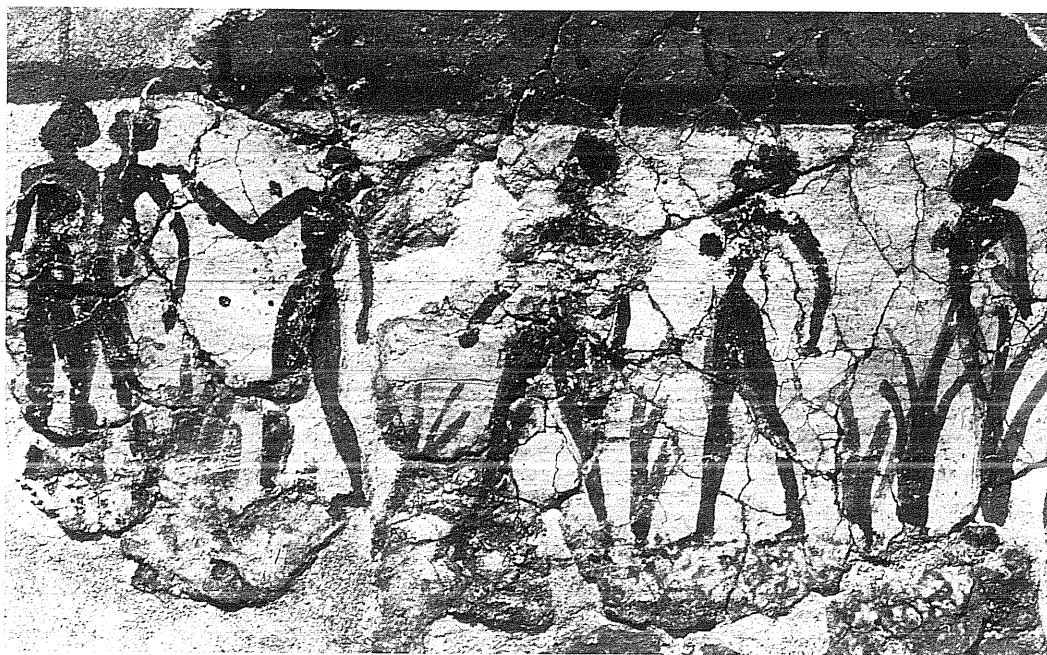
135. Running, gesturing men: detail from the Arrival Harbour (South Wall). 1:1.



136. Two fishermen: detail from the Arrival Harbour. 1:1.



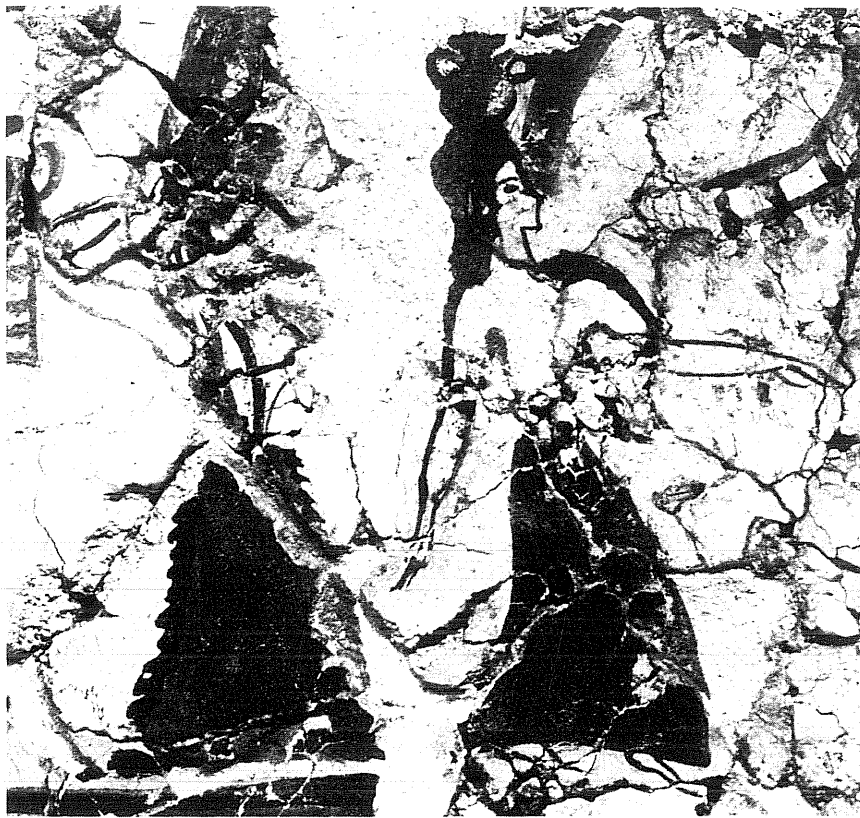
137. Line of men by town wall (left side): detail from the Arrival Town (South Wall). 1:1.



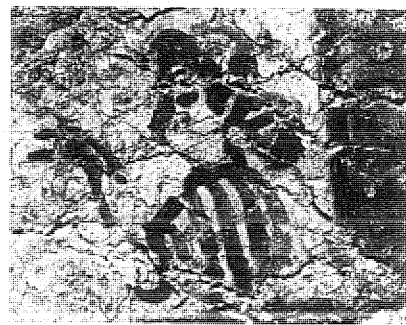
138. Line of men by town wall (right side): detail from the Arrival Town. 1:1.



139. Drowning men and shield: detail from The Shipwreck (North Wall). 1:1.



140. Two women: detail from the Pastoral Settlement (North Wall). 1:1.



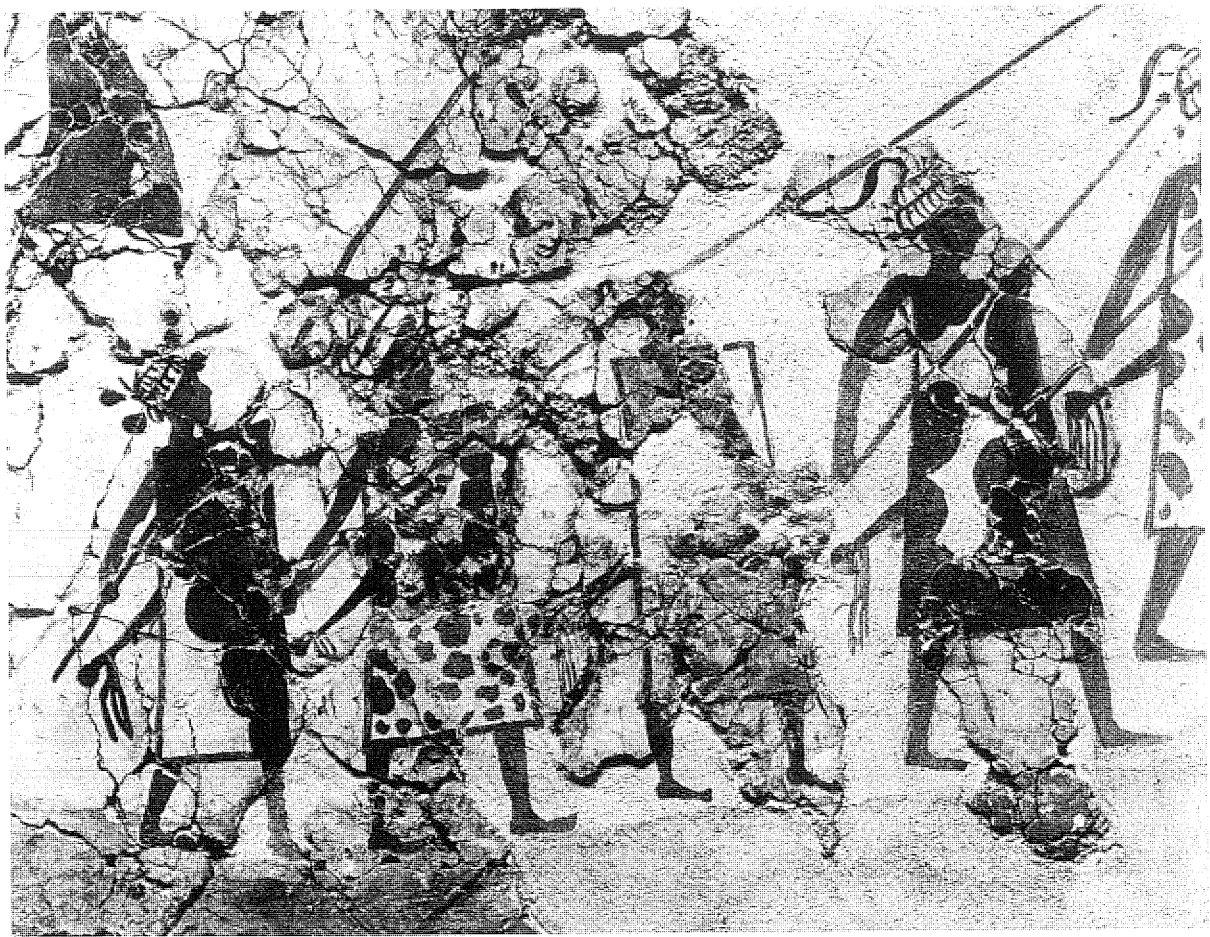
142. Woman: detail from the Arrival Town (South Wall). 1½:1.



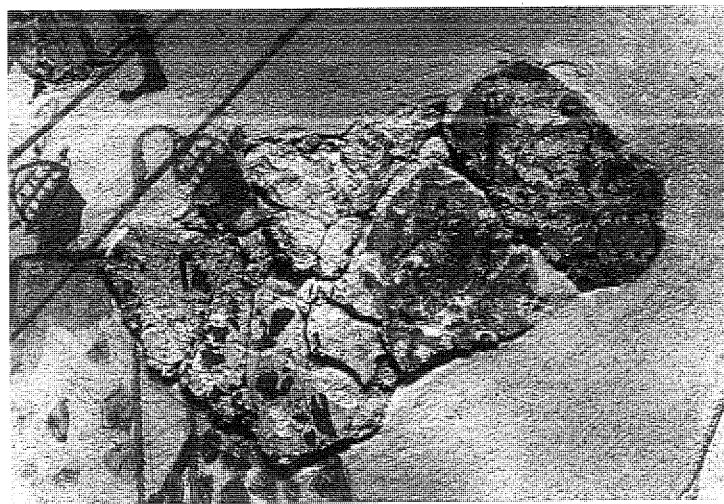
141. 'Naturalistic' clay figurine, Ayia Irini, Kea.



143. Woman: detail from the Arrival Town (South Wall). 1½:1.



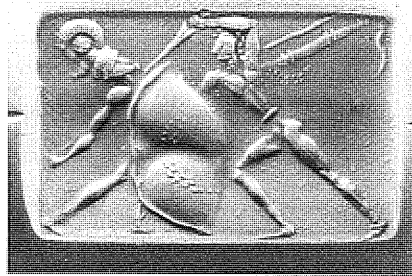
144. Warriors: detail from the North Wall. 1:1.



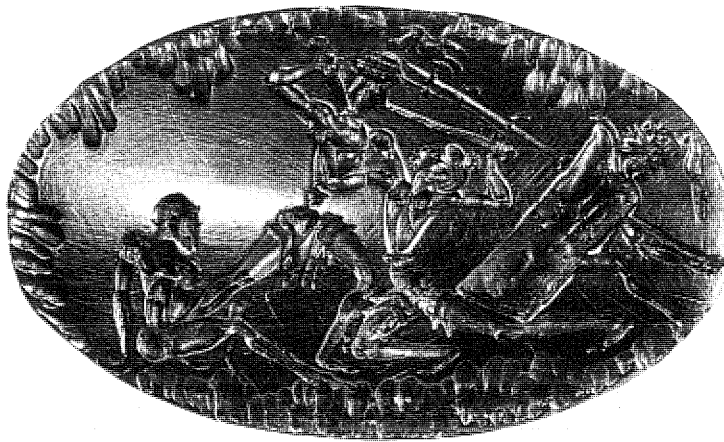
145. Warrior and building: detail from the North Wall. 1:1.



146. Amethyst cushion-shaped seal-stone, Gouvalari, Pylos. Impression.



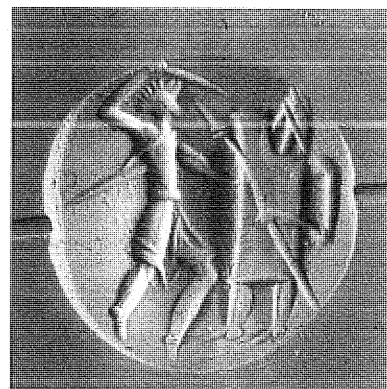
147. Gold rectangular seal, Shaft Grave III, Mycenae, Impression.



148. The Battle in the Glen gold ring, Shaft Grave IV, Mycenae.



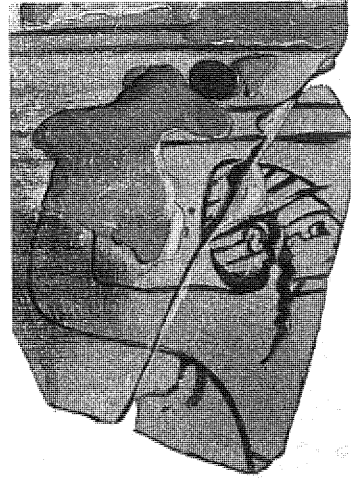
149. Chalcedony lentoid sealstone. Impression



150. Cornelian lentoid sealstone, Crete. Impression.



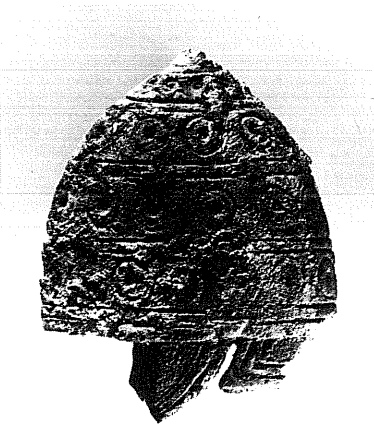
151. Fragment of a faience pot, from Shaft Grave III, Mycenae.



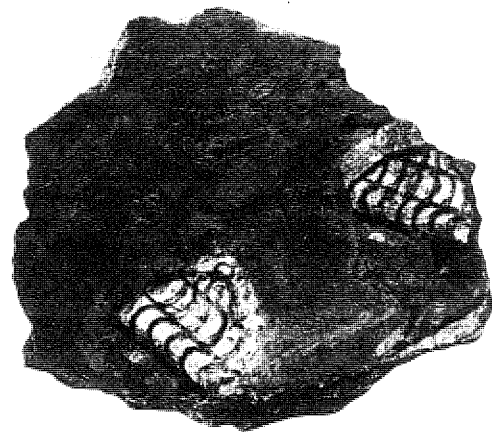
152. Faience fragment, House of the Shields, Mycenae.



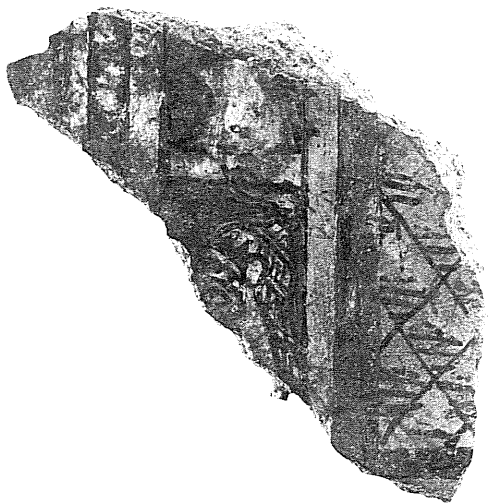
153. Fragment of a white marble slab incised with a warrior, Kea. LB I-II (?).



154. Ivory helmet model, Knossos, LM II.



155. Two warriors, fragment of a wall painting from Pylos. c. 1:1.



156. A female (?) warrior at a window, fragment of a wall painting from Thebes. 1½:1.



157. A female warrior with griffin, fragment of a wall painting from Mycenae.



158. Two warriors, fragment of a wall painting from Orchomenos.



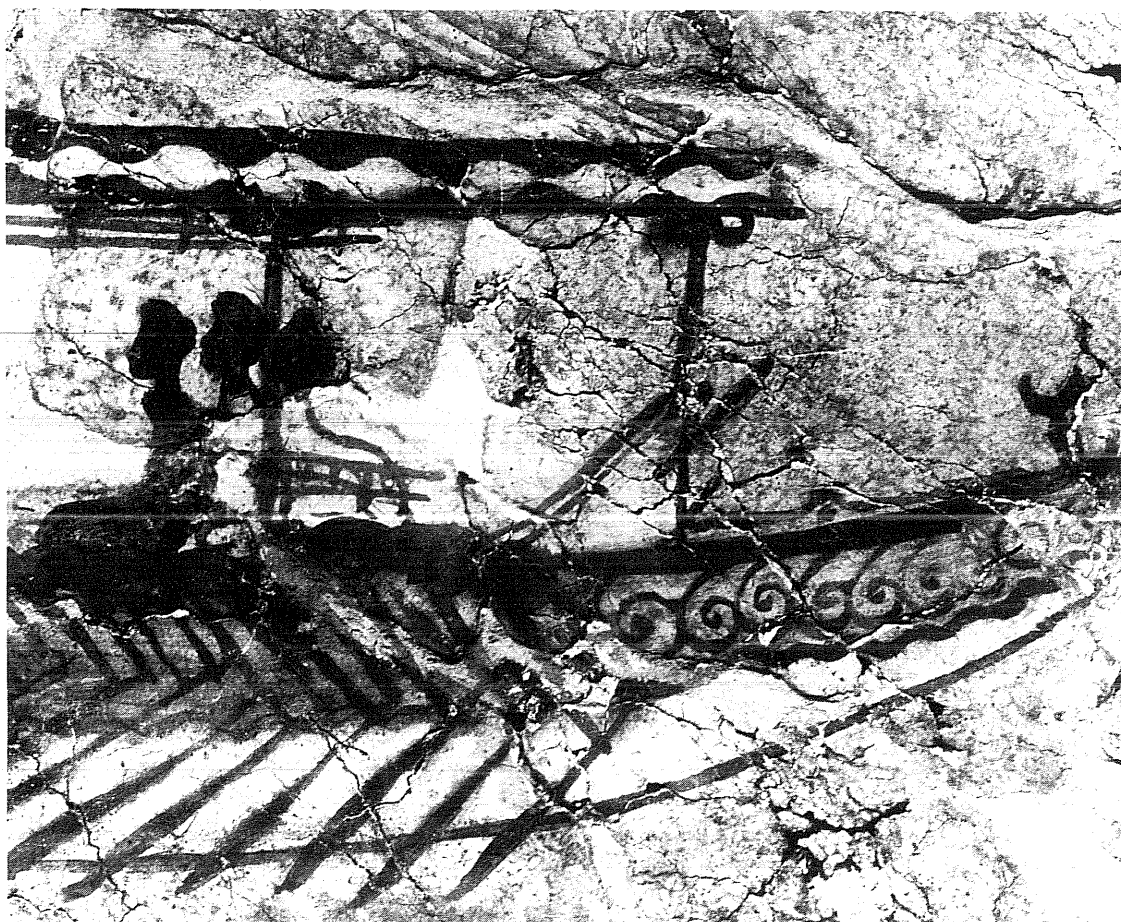
159. The rowed boat: detail from The Ship Procession (South Wall). 1:1.



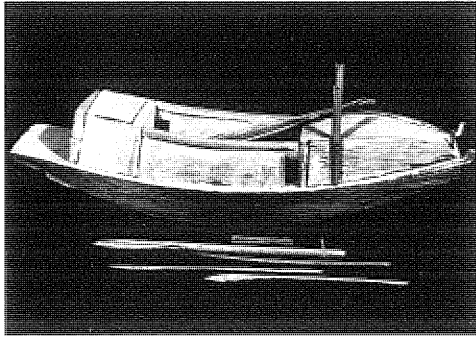
159. The rowed boat: detail from The Ship Procession (South Wall). 1:1.



160. The paddled boat: detail from The Ship Procession. 1:1.



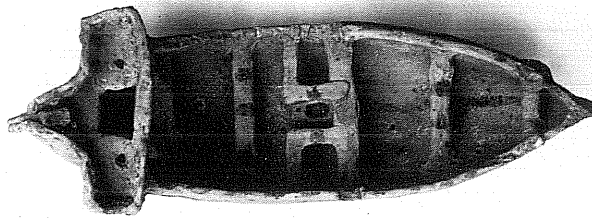
161. Fore passengers on Ship 1: detail from The Ship Procession. 1:1.



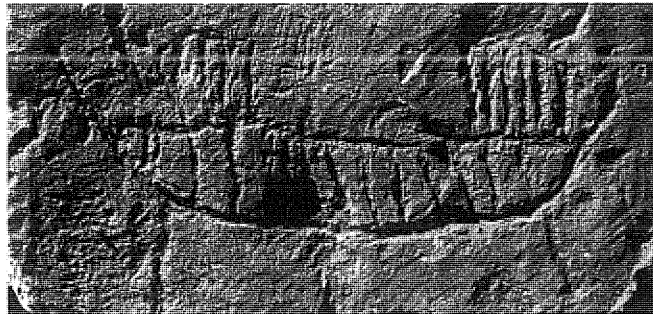
162. 6th dynasty Egyptian model of a cargo boat.



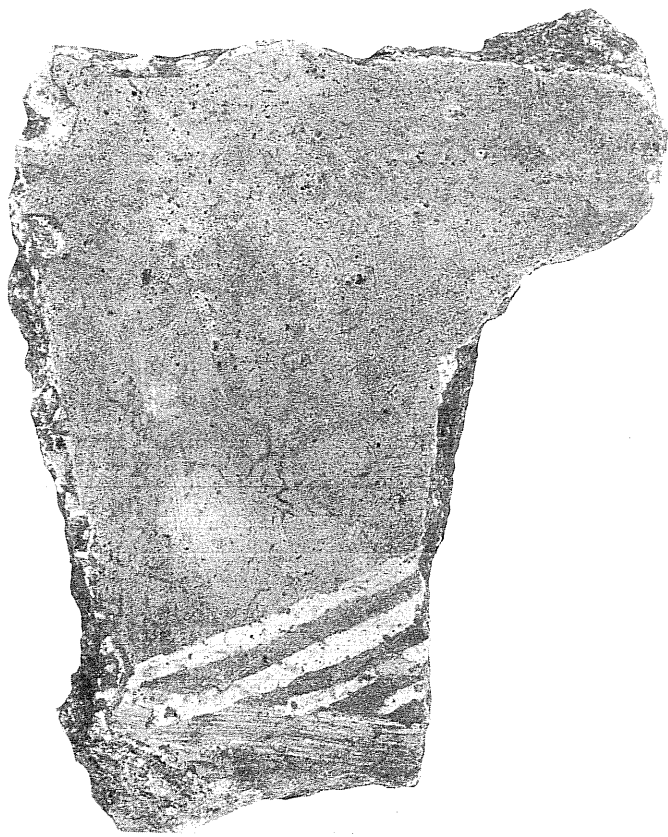
163. Ivory three-sided sealstone, Platanos, tholos B, MM I-II. Impression.



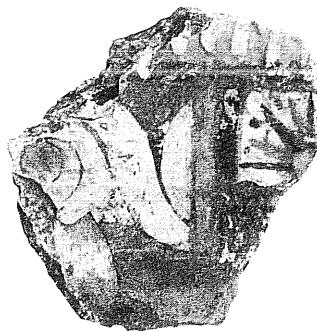
164. Clay model of a boat from Amathous, Cyprus, 9th-8th c.



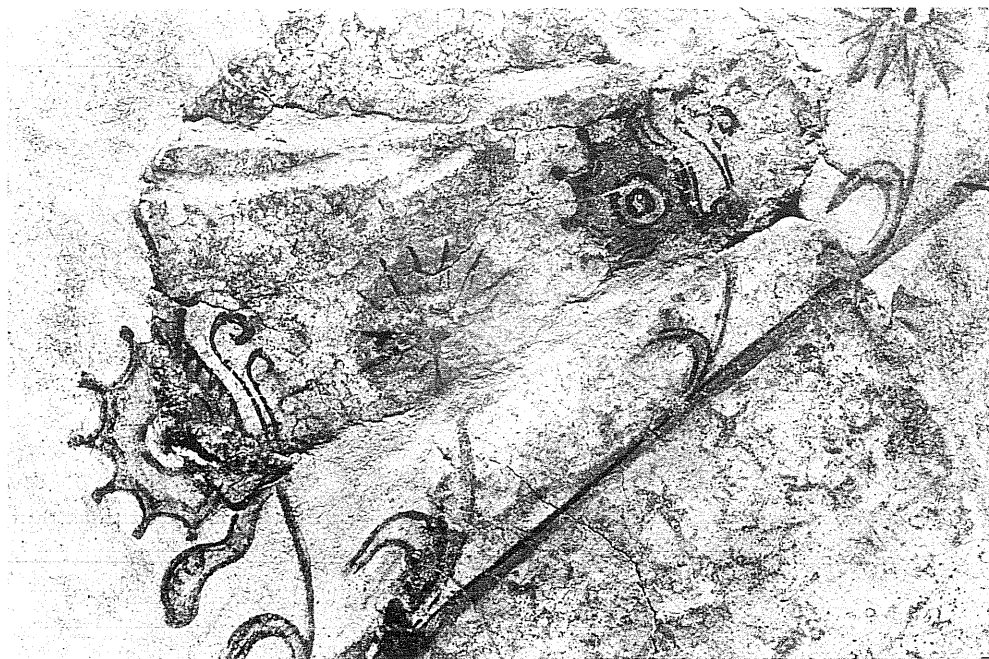
165. Incised stone from Hyria, Boetia, c. 1500?.



166. The mast and rig of a ship, fragment of a wall painting from Pylos. *c.* 1:1.



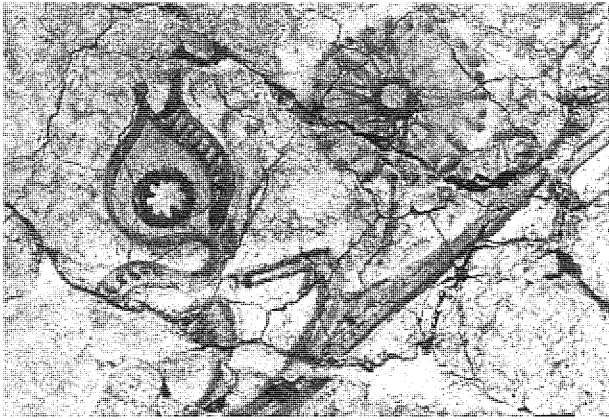
167. Star motif (from a ship's hull?), fragment of a wall painting from Pylos. *c.* 1:1.



168. Butterfly and star, prow emblems of Ship 2: detail from The Ship Procession (South Wall).
1:1.



169. Star and lion motifs on the hull of Ship 2 (South Wall). 1:1.



170. Butterfly and star, prow emblems of Ship 1 (South Wall). 1:1.



171. Butterflies, mast-top emblem of Ship 2 (South Wall). 1:1.



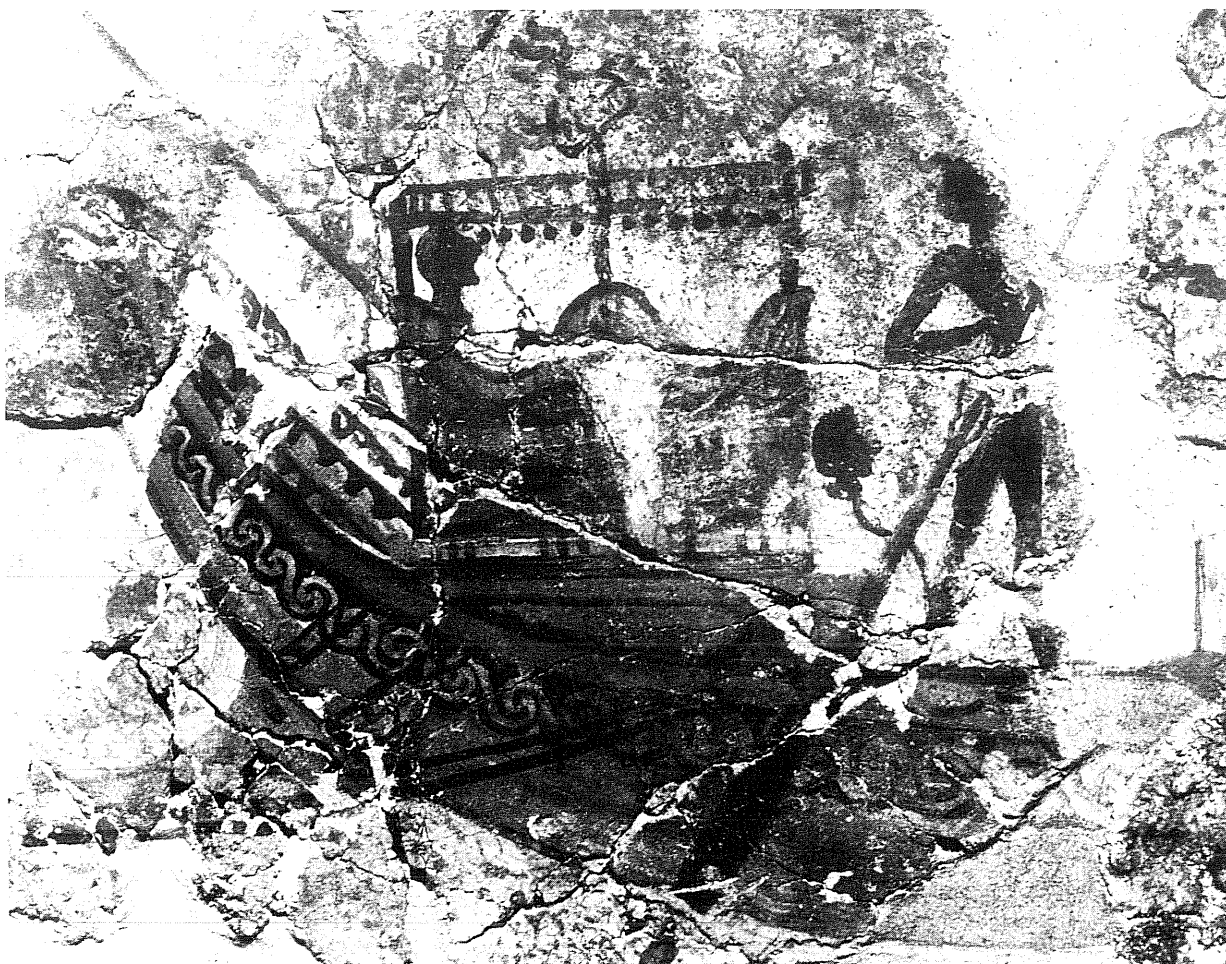
172. Star and other prow emblem of Ship 7 (South Wall). 1:1.



173. The stern of Ship 1 (South Wall). 1:1.



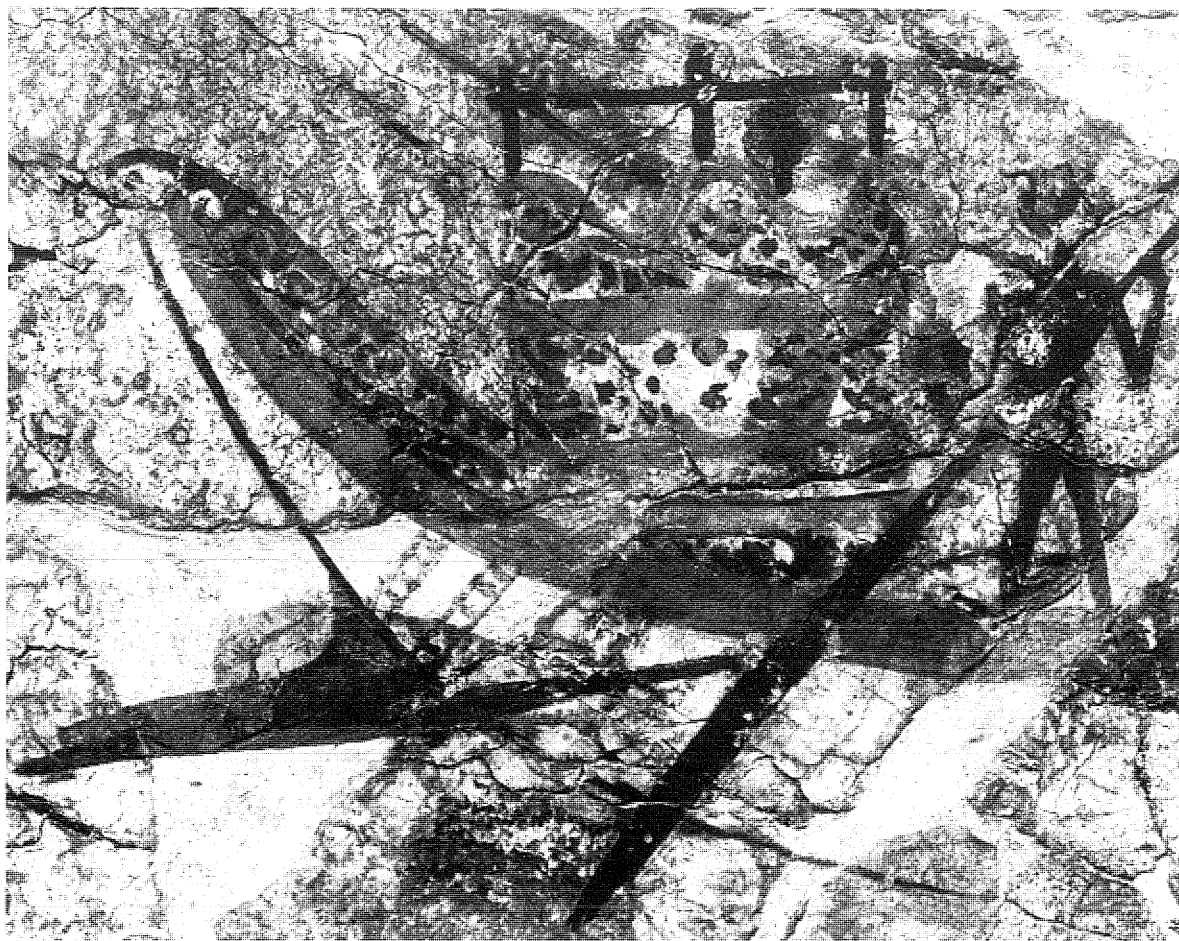
174. The stern of Ship 2 (South Wall). 1:1.



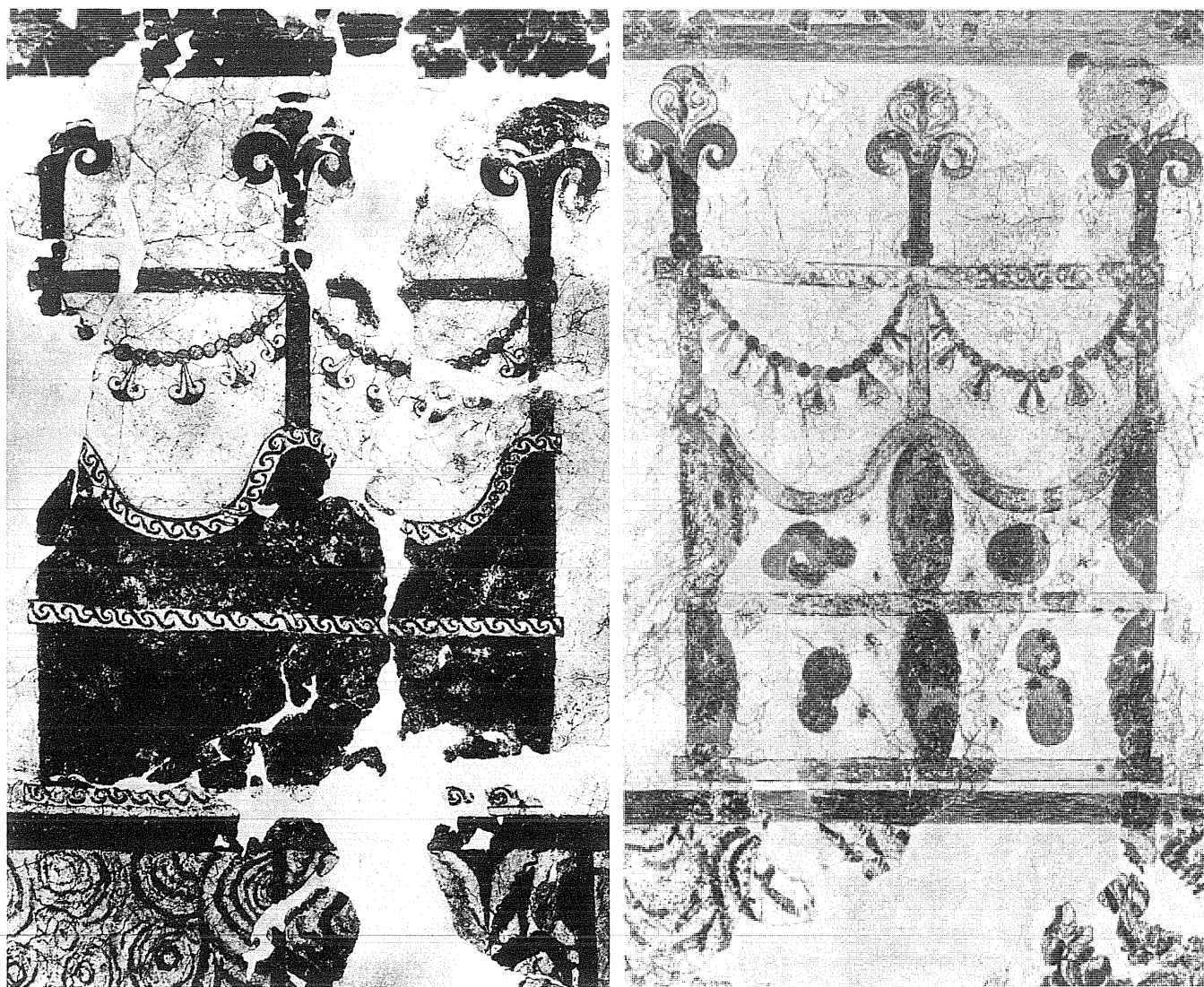
175. The stern of Ship 3 (South Wall). 1:1.



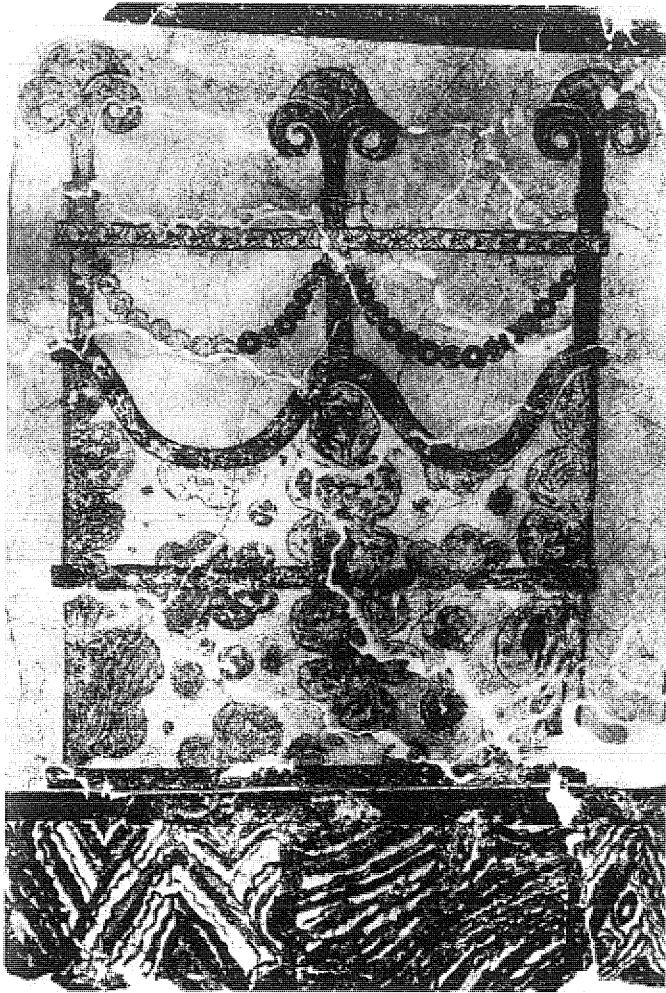
176. The stern of Ship 4 (South Wall). 1:1.



177. The stern of Ship 5 (South Wall). 1:1.



178. Two of the Stern Cabin panels from Room 4 of the West House.



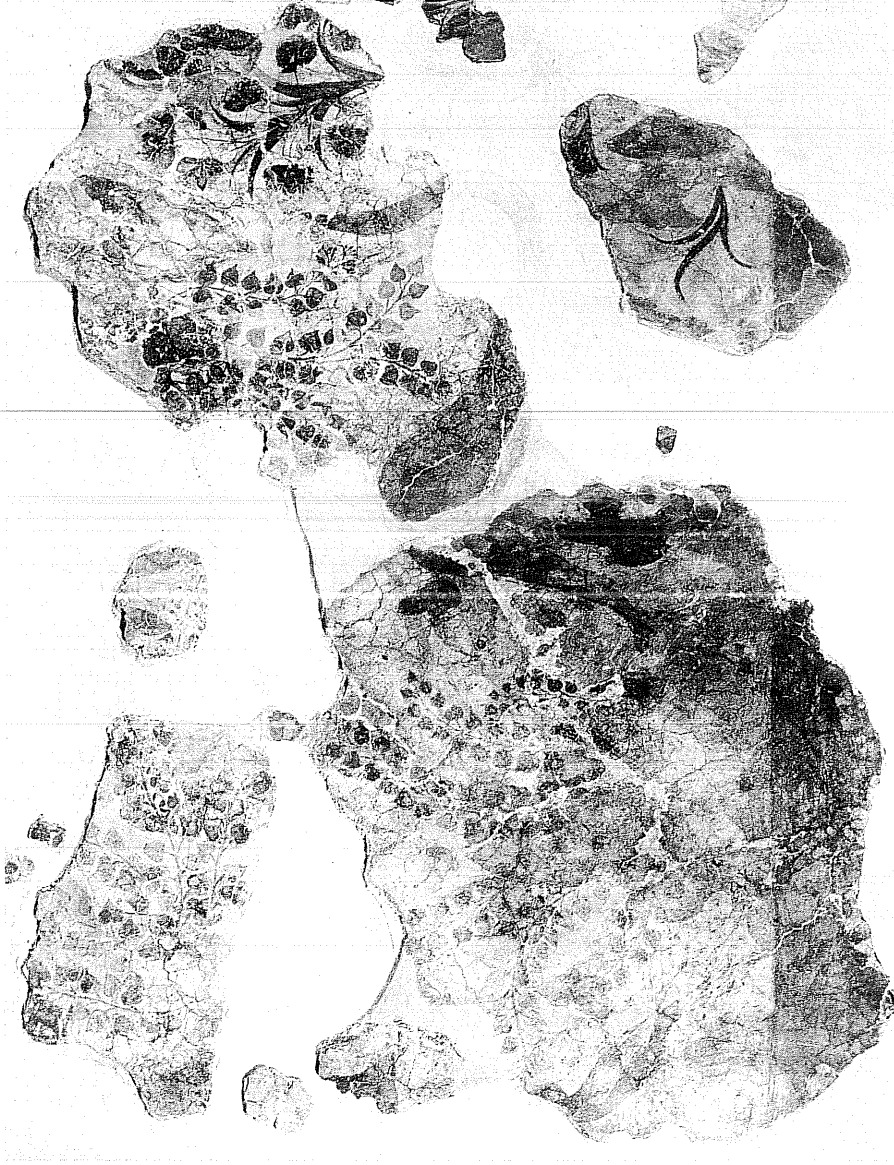
179. Stern Cabin panel, Room 4, the West House.



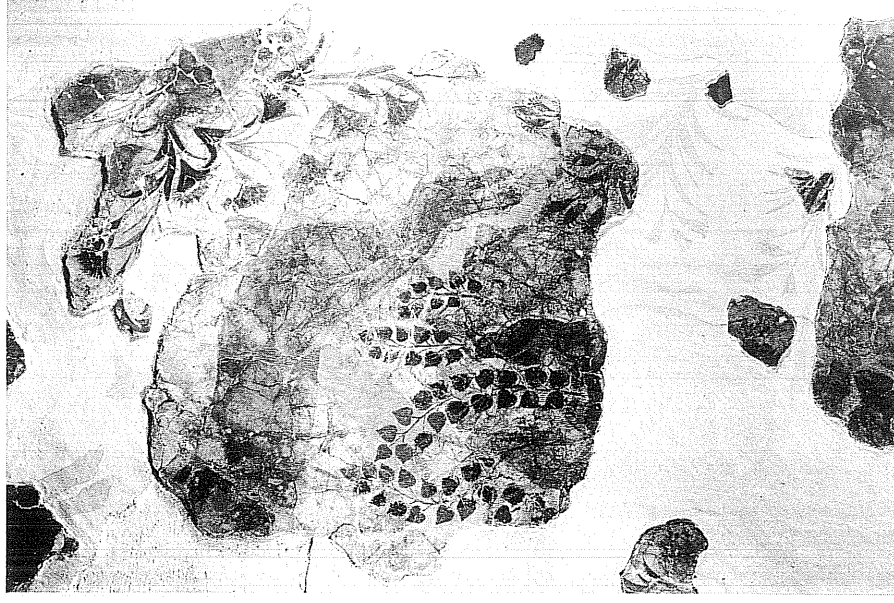
180. The Priestess panel,
Room 4, the West House.



181. Cat and bird: detail from The Landscape (East Wall). 3:4.



182. Fragments of the Cat and Bird painting from Room 14, Ayia Triada.



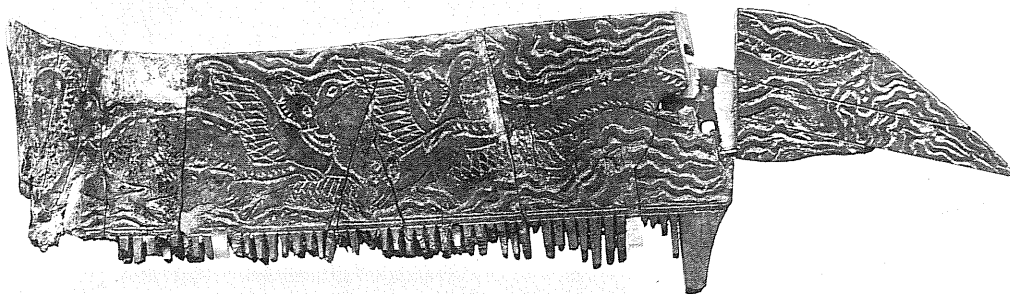
183. Deer and plants from the Cat and Bird painting from Room 14, Ayia Triada.



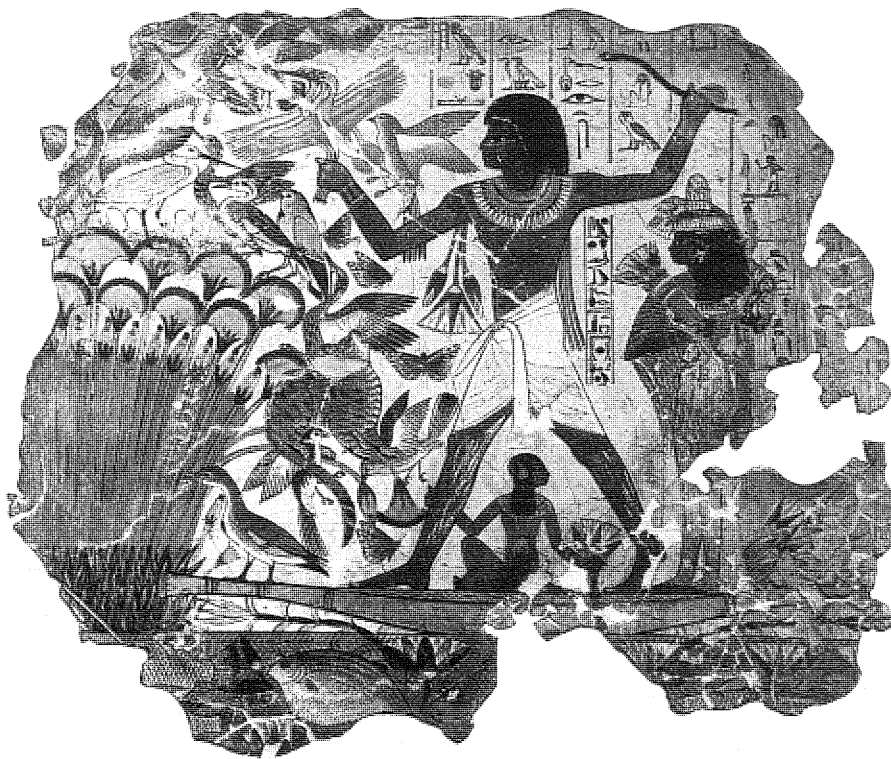
184. Cat and Bird fresco fragments from Knossos.



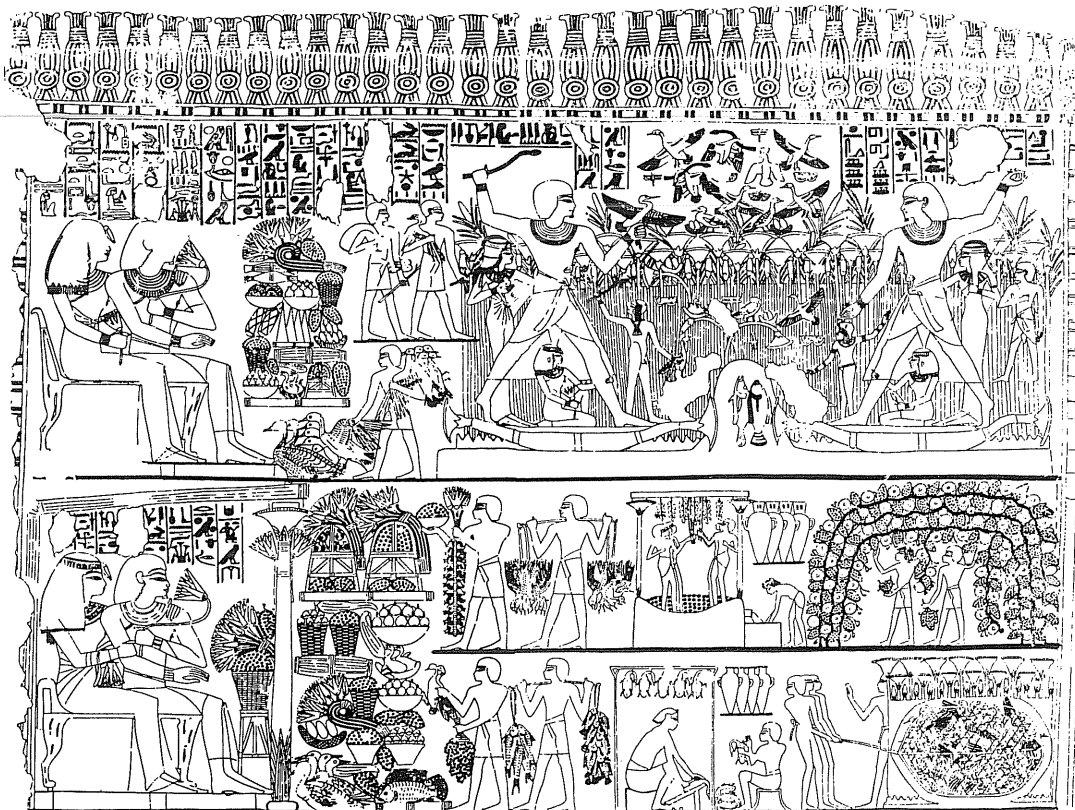
185. Inlaid dagger blade (both sides), from Shaft Grave V, Mycenae.



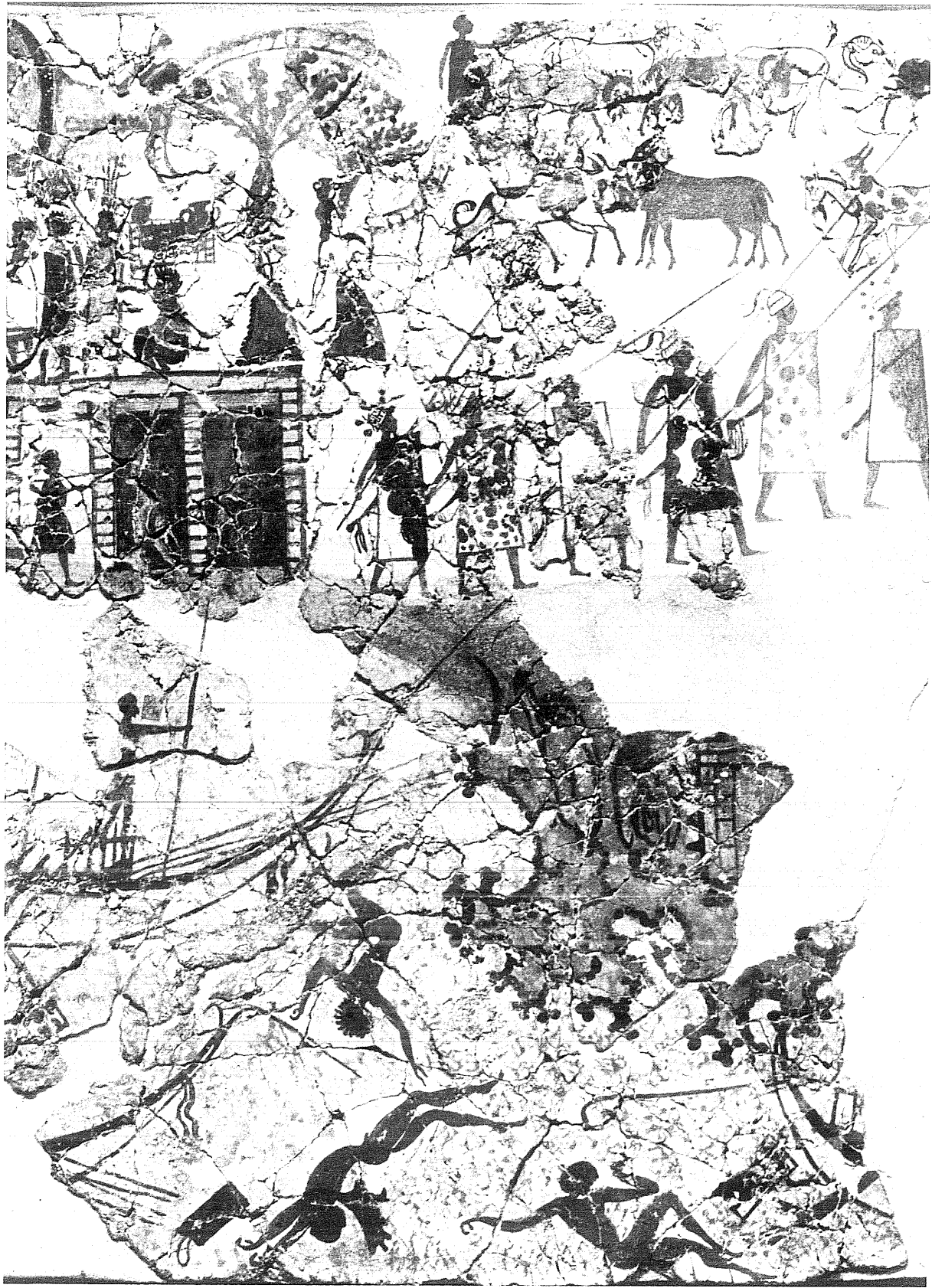
186. Ivory comb from Rutsi, near Pylos.



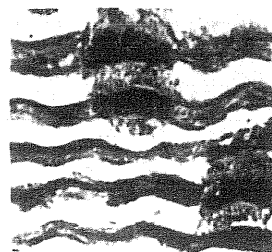
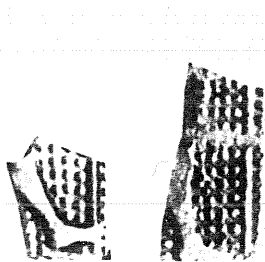
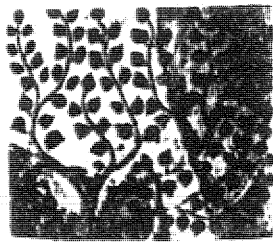
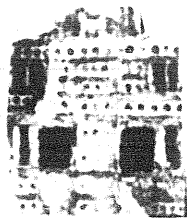
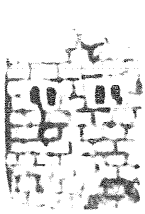
187. Fowling scene, wall painting from the Tomb of Nebamun, Thebes, 18th dynasty, c. 1450.



188. Scenes of fowling and food preparation from a wall painting from the Tomb of Nakht, Thebes, 15th c.



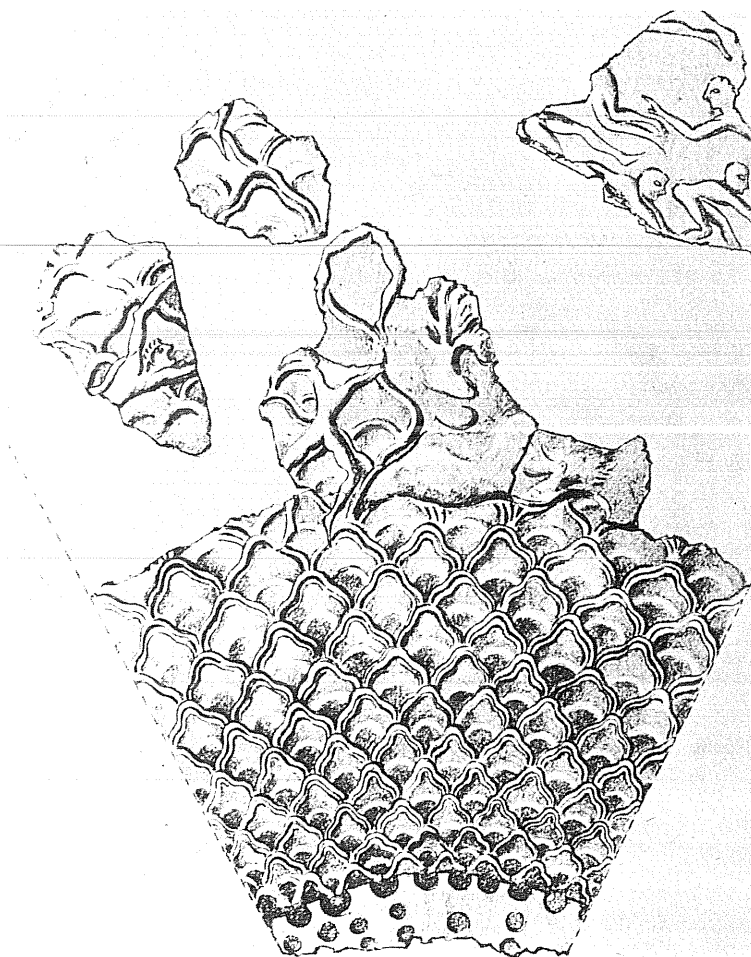
189. Scenes of Pastoralism, Shipwreck and Warriors: details from the North Wall. 1:2.



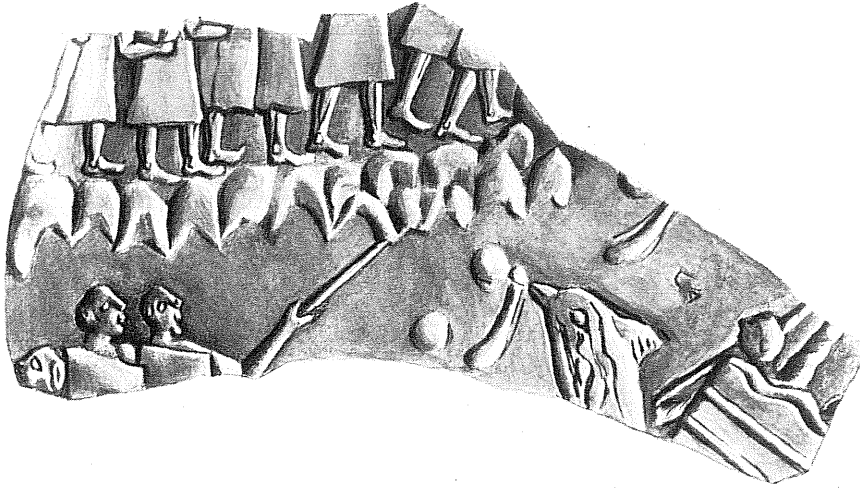
190. Faience plaques from the Town Mosaic, Knossos, MM IIIa.



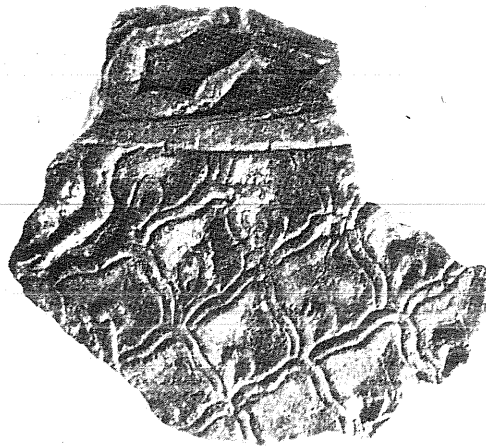
191. Drawing of the upper fragment of the silver Siege Rhyton, from Shaft Grave IV, Mycenae.



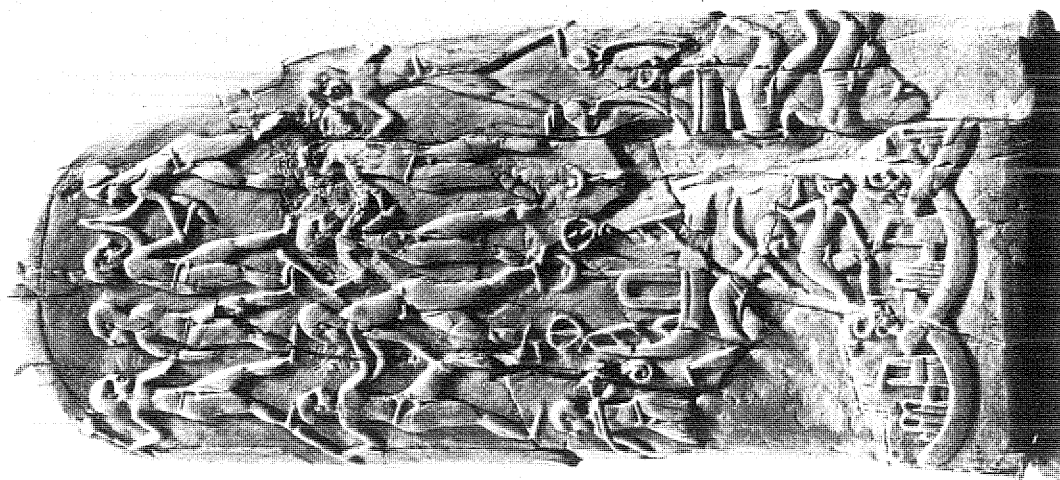
192. Drawing of the lower fragments of the Siege Rhyton.



193. Drawing of the upper fragment of a stone vessel from Epidauros.



194. Lower fragment of the stone vessel from Epidauros.



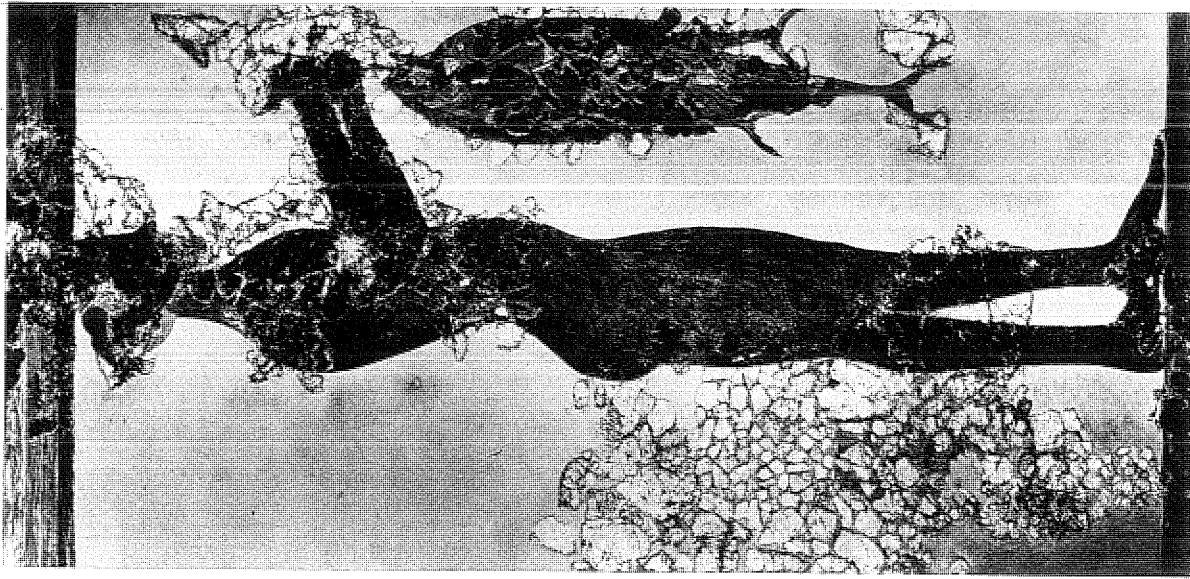
195. Knife handle from Gebel-el-Arak.



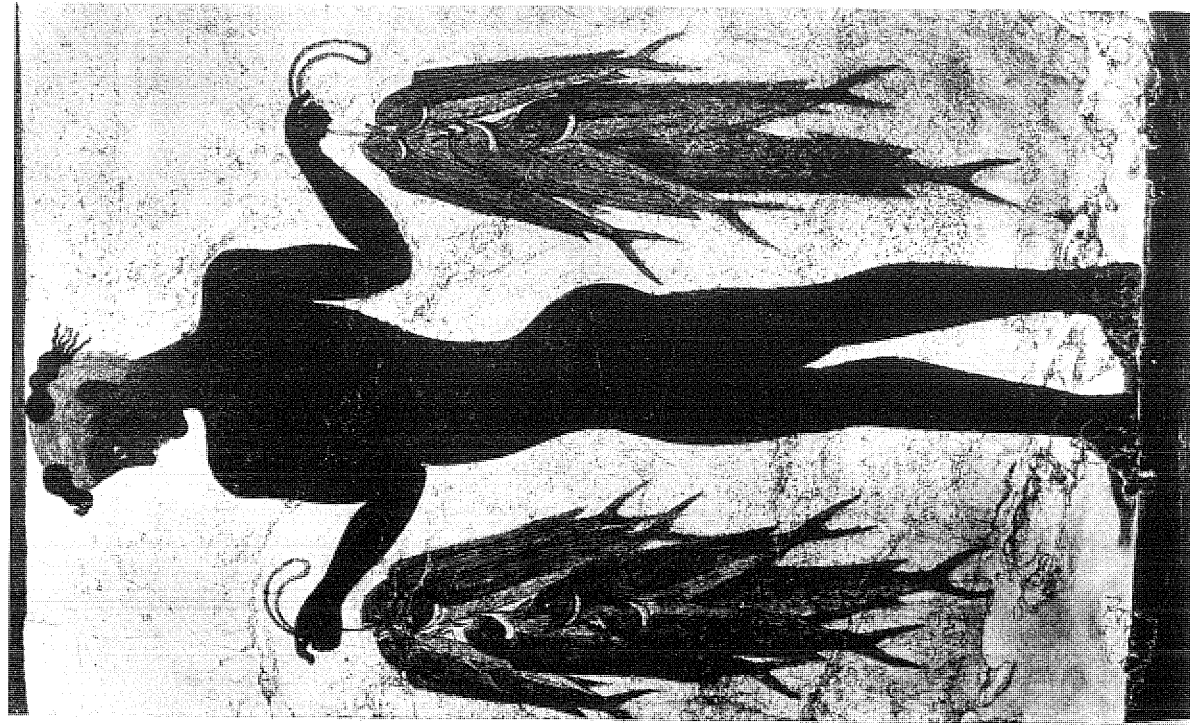
196. Fragment of a Greek Geometric krater.



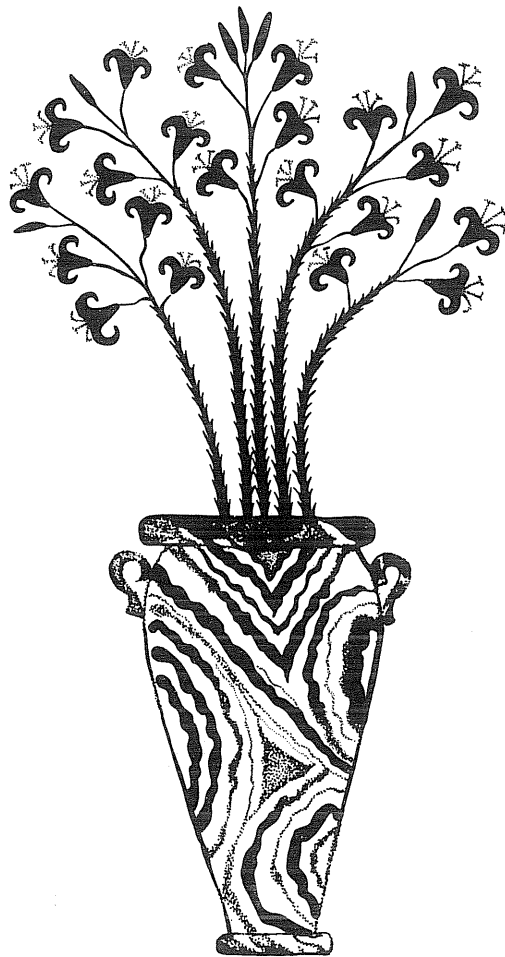
197. Detail of a wall painting from the Tomb of Rekmire, Thebes; registers of foreigners bringing goods to the vizier. Reigns of Tuthmosis III–Amenophis II, c. 1470–1140.



198. Fisherman panel, south corner of the West Wall,
Room 5, the West House.



199. Fisherman panel, east corner of the North Wall, Room 5, the
West House.



200. Drawing of the Lilies painting
from the north jamb of the window,
Room 4, the West House.

APPENDIX

AKROTIRI, THERA: DISTRIBUTION OF WALL PAINTINGS

(Subjects marked by an asterisk* are referred to in the reports but are not yet illustrated.)

Building	Subject	Publication (illustration)
A (1)	Man and Palm Bird Monkeys, Shrine and Papyrus Column Woman (fragments)	<i>Thera</i> II, col. pl. B (3–4) <i>Thera</i> II, col. pl. B (2) <i>Thera</i> II, fig. 43 <i>Thera</i> II, 54* and fig. 44 (?)
House of the Ladies Room 1	3 Women Papyrus Plants Stars and Bands	<i>Thera</i> V, col. pls. F, G, H <i>Thera</i> V, col. pls. E, F <i>Thera</i> V, col. pls. G–H
Area S.–E. of House of the Ladies	Flower motifs Band	<i>Thera</i> V, 15*
West House Room 5	Miniatures: Meeting on the Hill Shipwreck, Settlement and Warriors The Landscape The Ship Procession Panels: 2 Fishermen	<i>Thera</i> VI, col. pl. 7 <i>Thera</i> VI, col. pl. 7 <i>Thera</i> VI, col. pl. 8 <i>Thera</i> VI, col. pl. 9 <i>Thera</i> VI, col. pl. 6
Room 4	The Priestess panel 8 Cabin panels Lilies in Pots	<i>Thera</i> VI, col. pl. 5 <i>Thera</i> VI, col. pl. 4 <i>Thera</i> VI, col. pl. 3
Gateway	Rosettes	<i>Thera</i> VI, 18*
Δ 2	‘Spring Fresco’: Lilies, Rocks, Swallows	<i>Thera</i> IV, col. pls. A, B, C <i>Thera</i> IV, pls. 121–6
Δ 17	Plant: osier branch	<i>Thera</i> VII, pl. 15a
B 1	Antelopes and Boxing Boys with Ivy Band	<i>Thera</i> IV, col. pls. D–F <i>Thera</i> IV, pls. 117–20 <i>Thera</i> IV, pl. 51b

Building	Subject	Publication (illustration)
B 6	The Monkeys and Spirals Swallow(s?)	<i>Thera</i> V, col. pl. D and <i>Thera</i> IV, pls. 113–15 <i>Thera</i> III, col. pl. B (I)
B 6?	Crocus and Animals	<i>Thera</i> IV, 46*; <i>Thera</i> V, 38* (exhib. Athens Museum)
B (6?) (cf. text <i>Thera</i> III, 6–7 <i>Thera</i> IV, 46)	Monkey (head) Grasses Myrtle plants	<i>Thera</i> II, col. pl. B (I) <i>Thera</i> II, pl. 5 (2) <i>Thera</i> II, pl. 6
B	Sponge-prints – ‘marine rockwork’	<i>Thera</i> I, 45, fig. 66
North Court and Γ 10	Rosettes	<i>Thera</i> III, pls. 59 (2) and 60
Γ I [Xesté 3?]	Spirals	<i>Thera</i> III, col. pl. B (2) [cf. <i>Thera</i> VII, 22]
Xesté 3 Room 3	The Crocus Gatherers (reconstructed drawings) Women gathering Crocuses Female with Griffin and Monkey Lilies Reeds Waterfowl and Net 4 Men holding Objects	<i>Praktika</i> 1980, 295, fig. 4; N. Marinatos 1984b, pls. 40, 43–4, 49, 52–4 <i>Thera</i> VII, col. pls. A–K, and pls. 58–66 <i>Thera</i> VII, 33–4* <i>Thera</i> VI, pl. 24c <i>Thera</i> VI, pl. 24b <i>Thera</i> VII, col. pl. L <i>Thera</i> VI, 17* <i>Ergon</i> 1982, 47, pl. 114; <i>Praktika</i> 1982, pl. 169
Room 2	Monkeys (and lyre, sword)	<i>Thera</i> VII, 25–6*; <i>Praktika</i> 1975A, pl. 186β; N. Marinatos 1984b, pl. 80
	Swallows and Crocuses	<i>Thera</i> VII, pl. 39b and p. 27
Ante-Room 5	Man	<i>Thera</i> VII, 25*
Stairway 5	Rocks and Plants (‘trees’)	<i>Thera</i> VI, pl. 23
Room 4	Spirals and Rosettes	<i>Thera</i> VII, pl. 40
Room 9	Rosettes and Relief Frames	<i>Thera</i> VII, pl. 41
Xesté 4	Plants and Bands Human Figures	<i>Thera</i> VII, pl. 31 AR 1975–6, 25*

NOTES

1 Introduction

- 1 Interpretation of the miniatures has been prolific and diverse. The reader is referred in particular to Marinatos *Thera* VI; Benzi 1977; Buchholz 1975; E. Davis 1983; Gesell 1980; Haider 1979; Immerwahr 1977; Laffineur 1983, 1984; N. Marinatos 1981, 1983; Morgan (Brown) 1978; Morgan 1983; Negbi 1978; Page 1976; Säflund 1981; Sakellariou 1980, 1981; Sapouna-Sakellarakis 1981; Stucchi 1976; Warren 1979a.
- 2 *Thera* VI, plans 4–7.
- 3 Fouqué 1879, 94–127 (Therasia and Balos); Mamet 1874 (Balos); Gaertringen 1904, 40ff. (Potamos). For further references see Fouqué 1879, 108; Furtwängler & Loeschcke 1886, 18; Mavor 1969; Sperling 1973. On the pottery: Åberg 1933, 127ff.; Dussard 1914, 88–95; Furtwängler & Loeschcke 1886; Perrot & Chipiez 1894, 135ff.; Renaudin 1922, 113–59. Fragments of wall paintings were found in one of the two buildings at Balos: stripes and red lilies comparable to those of the Spring Fresco at Akrotiri; Fouqué 1879, 110–11; Furtwängler & Loeschcke 1886, pl. 12 (73–4) and p. 19; Perrot & Chipiez 1894, fig. 212; Vermeule 1972, 119, fig. 23a.
- 4 Eleven sites of the period have been reported, six of which are in the vicinity of Akrotiri (Sperling 1972, 48, maps 10a and 10b; cf. *Thera* I, 4). It should, however, be remembered that the high centre of the island collapsed in the caldera at the time of the eruption and large areas of the remaining island are covered by deep strata of tephra, leaving only certain areas open to survey.
- 5 The paintings from Xesté 3 will be published in an excavation fascicule by N. Marinatos, those of the West House by Ch. Televantou.
- 6 AR 26 (1979–80) 45–6. In Room 6 Marinatos noted that what he took to be the roof was made of beaten earth with a mixture of sea-pebbles, a feature of earthen floors elsewhere in the excavation (*Thera* VI, 21), which suggests a third storey or verandah.
- 7 See the new plan of the building by Palyvou 1982, 20, fig. 10.
- 8 *Thera* VI, 24–5.
- 9 N. Marinatos 1981, 1983, 1984b (which came out in early 1985, after the completion of this book).
- 10 *Thera* VI, 33. The majority of the pottery is local, either ‘Minoanizing’ or in the Cycladic tradition; a smaller proportion is imported. On pottery analyses see TAW 1, 459–514 (Einfalt; Jones; Maniatis & Tite; Noll; Williams). The Thera pottery will be fully published by Marisa Marthari.
- 11 *Thera* VI, pl. 40b.
- 12 *Ibid.* pl. 77c.
- 13 *Ibid.* pl. 78.
- 14 *Thera* V, pl. 80.
- 15 *Thera* VI, 26–9, pl. 63a, pl. 55b.
- 16 N. Marinatos 1983, 5, 13. The installations in Room 4a are interpreted as elements in a water purification ceremony (13–15). A list of finds in Rooms 4 and 5 is provided in tables I and II, p. 11.
- 17 *Thera* V, col. pl. C; *Thera* VI, 27.
- 18 I am extremely grateful to the architect Clair Palyvou for her comments on Figs. 2–6 which resulted in several minor changes to the drawings. The measurements are based on the ground-plan of the room as first published in *Thera* VI (plan 4) and adapted according to the new plan by Palyvou (*Praktika* 1980, 290, fig. 1; Doulas 1983, 49, fig. 6), and on the known height/width of the best-preserved painted panels, the Ship Procession frieze and the dadoes. The height of the doors, and the total height of the rooms are estimated on the basis of the average in Minoan residential buildings as reported by Graham (1969, 187–8). The positions and width of the windows are known from the ground-plan, while the height is estimated from the measurements of The Lilies which were painted on the sides of the window in Room 4 (*Thera* VI, pl. 52, col. pl. 3). The positions of The Fishermen and Priestess panels were recorded by the excavators according to the way in which they fell; similarly, although the

miniature friezes were in fragments at several depths on the floor of the room (*Thera* VI, plans 5–7), it is clear from their positions to which wall each belonged. Only the position of The Priestess causes some uncertainty. Found intact lying parallel with the corner of the eastern end of the North Wall and the west door jamb, it was assumed by Marinatos to have belonged to the wall but is thought by Doulas to have been painted on the east jamb of the doorway (1983, 73, 84).

- 19 *Thera* VI, 25. C. Palyvou informs me that these cupboards originally had double doors.
- 20 *Thera* VI, 22.
- 21 Ibid. 42. On technical grounds, Iliakis considers that the surviving portion of The Landscape abutted on to the South Wall (*TAW* I, 623, pl. 7).
- 22 *Thera* VI, 24.
- 23 Most writers begin their discussion of the scenes with the North Wall. An exception is E. Davis (1983) who begins with the South. N. Marinatos (1984b) discusses the North Wall as one moves from right to left.
- 24 Concerning terminology, where possible I have kept to the original names for paintings suggested by Marinatos, so: The Meeting on the Hill, The Priestess, The Fisherman. Elsewhere, my study of detail and theme has suggested some variation: thus Shipwreck and Warriors rather than 'Sea-Battle', The Landscape rather than 'The Subtropical Landscape', The Ship Procession rather than 'The Libya Fresco', and Stern Cabins rather than 'Banners' or 'Ikria'. In referring to the towns I have preferred to distinguish between the Pastoral Settlement (above the Shipwreck scene), the Departure Town and the Arrival Town (left and right of The Ship Procession) rather than Towns 1, 2 and 3 as suggested by Marinatos.
- 25 *TAW* I, pl. k (lower right). Cf. *Thera* VI, plan 6, frag. 12, and plan 7, frag. 14, βοοειδών. A few further fragments have been recovered in recent years (*Praktika* 1977 B', 387). These will be published by Ch. Televandou.
- 26 *Thera* VI, col. pl. 6.
- 27 *Thera* VI, col. pl. 3 and pls. 48–51.
- 28 *Thera* VI, 36. Cf. Atkinson & Bosanquet 1904, 71, on the Phylakopi Flying Fish Frieze. In this instance, the comment may have been based on the existence of flat edges to the plaster, a feature which arises from the architectural arrangement in which friezes abutted, hence were 'framed' by, wooden beams set into the walls.
- 29 *AE* 1974, 216; 1983, 84.
- 30 The debate centres largely around the apparent gap in ceramic chronology between Thera (LM Ia) and the Cretan destructions (LM Ib). If the destruction of LM Ia Akrotiri was caused by pre-volcanic earthquake in c. 1500 and the volcanic eruption occurred c. 1450, causing the Cretan disasters, we are left with a long gap of some 50 years which is hard to correlate with the scientific evidence. (Rebuilding activities and levels of accumulated earth beneath the tephra indicate that there was some gap however, as do the differing results of recent palaeomagnetic analyses of a hearth from the Akrotiri destruc-

tion and of the volcanic eruption(s): Downey & Tarling 1984.) Prior to the 1978 Thera Congress, the issue was summarized by Warren 1973, 173–8; and Luce 1976, 9–16. On the stratigraphy of the Akrotiri site see Doulas, *Kadmos* 1970, 96–8; *Antiquity* 1974, 110–15; *TAW* I, 777–82 (cf. Money 1983, 50–3). On the definition of LM Ia/LM Ib: Popham 1967, 339–43; and its bearing on the Thera problem: Coldstream 1969, 150–2; Hood 1971b, 377–83; Luce 1976, 12–15. On the Cretan destructions see especially Page 1970, 1–12. On LM Ib disaster levels outside Crete see summary by Warren 1973, 175, and Doulas 1974a, 114. On the Thera volcano: the scientific opinion of a single phase eruption was expressed almost unanimously at the International Congress of 1969 (*Acta* 1971) and was further emphasized at the Congress in 1978 (*TAW*). This view superseded that of protracted volcanic activity given by Reck (1936). However, the recent results of archaeomagnetic dating must now be taken into consideration (see below, Downey & Tarling 1984). For earlier commentaries on the possible effects of the volcanic activity on Crete: Galanopoulos 1958; Page 1970; and the evidence of deep-sea cores: Ninkovich & Heezen 1965. On volcanic glass shards from Thera identified in LM Ib levels on Cretan sites: Cadogan, Harrison & Strong 1972, 310–13; D. B. & C. J. Vitaliano, *AJA* 78 (1974) 19–24; 79 (1975) 83ff., 367ff.; and at LH IIa Nichoria: Rapp & Cook 1973, 136–7. On tephra found below the LM Ib destruction level at Zakros and Phylakopi: D. B. & C. J. Vitaliano, *TAW* I, 217–19, with counter-comments (esp. Warren) and discussion, *TAW* II, 330ff. On Phylakopi see also Davis & Cherry 1984, 154, 158. Two scholars argue against an LM Ib date (c. 1450) for the Thera eruption. Hood has sought to correlate an LM Ia disaster level (c. 1500) on Cretan sites with the volcanic activity, and prefers to attribute the LM Ib disasters to human activity (1970, 98–101; 1973, 111–18; *TAW* I, 681–90). Pomerance attributes the LM Ib disasters to earthquake and suggests a date of c. 1200 for the final destruction of Thera (Pomerance 1970); cf. critical review by Warren (1973). Attempts to correlate the volcanic with the stratigraphic evidence have been made by Doulas, who suggests that the LM Ib destructions in the Aegean were caused by earthquakes resulting from the final collapse of the volcanic cone which formed the caldera, some time after the actual eruption (*Antiquity* 1974, 114); and by Luce, who argues on the basis of the Akrotiri pottery that the settlement was not abandoned until c. 1470 (Luce 1976). These and other scholars discussed the various issues at the Thera Congress (*TAW* I and II, 1978 and 1980). The scientists present generally agreed that the three stages of the eruption occurred within a very short time, and that the effect of both tsunamis and volcanic dust on Crete would have been less than had previously been estimated. The archaeologists were by no means so unanimous in their opinions on the length of the chronological gap between the Thera and Cretan disasters. But generally

- the prevailing opinion was that the volcanic eruption of Thera could not be said to have been responsible for the LM Ib disasters on Crete. A summary of the Congress is given by Popham 1979. The most recent addition to the debate are the results of archaeomagnetic dating on the Thera ash horizons and on fired destruction levels of LM I Cretan sites, which have revealed a gap (estimated at 20 or 10 years) between the destructions in central Crete, synchronous with the basal (Plinian) ashfall, and the destructions in eastern Crete, synchronous with the final paroxysmal eruption of the Thera volcano. Both sets of destructions are now thought to have been caused by earthquakes and associated fires (Downey & Tarling 1984). This time gap is significant for the debate, which will doubtless continue.
- 31 E.g. Early Cycladic pot: *Thera* VII, pl. 8b. EC marble figurines: *Thera* III, pl. 57a; *Thera* V, pl. 38b. Middle Cycladic pot: *Thera* III, fig. 4. Middle Minoan imported sherds: *Thera* VI, pl. 67b, d. General: *Thera* III, 8.
 - 32 *Thera* V, 9, 45; *Thera* VI, 24–5. Marinatos dates the destruction to the beginning of LM Ia, c. 1550, yet thinks to correlate it with the late MM III destruction at Knossos (dated by Evans to c. 1570). Recent excavation confirms the early LC I/LM Ia dating, a period during which late MC styles continued to be produced alongside the early LC styles (Mathari 1984; Palyvou 1984).
 - 33 Cf. Scholes 1956, 37.
 - 34 *Thera* V, 37, 45; *Thera* VI, 25–6, pl. 53.
 - 35 *Thera* IV, 18–19, 21.
 - 36 Doumas 1974a, 111; 1983, 134–5.
 - 37 *Thera* VII, pl. 20. Some human bones were, however, reported from the early excavations on Therasia: Lenormant 1866, 430.
 - 38 Doumas & Warren 1980.
 - 39 Niemeier 1980. A further work relevant to the dating question is Catling *et al.* 1979, on LM Ia pottery at Knossos in firm stratigraphic deposits.
 - 40 Luce 1976; 1978, 785–90. Cf. Bolton in an addendum to Luce 1976, 17–18.
 - 41 On the overlap of late LM Ia with LM Ib wares see for example Hood, K. *Chron.* 1961–2, 97; Popham 1967, 339; Coldstream & Huxley 1972, 292; Luce 1976, 12–13; 1978. For further comments on the duration of the phases see: Vermeule 1972, 144; Page 1970, 9–10; P. Betancourt, *Archaeology* 30 (1977) 39.
 - 42 On the distribution of LM Ib Marine Style see Mountjoy *et al.* 1978.
 - 43 As argued in Morgan 1984.
 - 44 Radiocarbon tests from Akrotiri samples have yielded a wide margin of dates that are inconsistent within themselves and in relation to the absolute chronology of the Aegean world in general. On average the calibrated short-lived samples are over a hundred years earlier than expected and it has been suggested that gaseous emanations from the volcano have affected the organic material. Michael, *TAW* I, 791–5; Weinstein & Betancourt, *ibid.* 805–14; Friedrich & Friberg, *TAW* II, 241–3; Michael, *ibid.* 245–6; Biddle & Ralph, *ibid.* 247–52. Absolute dating has also been attempted on the basis of data from ice cores (C. U. Hammer, H. B. Clausen & W. Dansgaard, *Nature* 288 (1980) 230), yielding a date of 1390 ± 50 B.C., and from bristlecone pine tree-ring sequence (V. C. LaMarche Jr & K. K. Hirschboeck, *Nature* 307 (1984) 121), yielding 1628–1626 B.C. See discussion and refutation of the latter by Warren 1984.
 - 45 The mentor of iconography is Erwin Panofsky, who in 1939 published a detailed explanation of its aims and principles as applied to art history in the Introduction to his book *Studies in Iconology, Humanistic Themes in the Art of the Renaissance* (Oxford).
 - 46 Since writing this chapter, I have attempted to define the methodology more rigorously in the paper ‘Idea, idiom and iconography’ (1985).
 - 47 The complexities of interpreting form have been touched upon in my paper ‘Idea, idiom and iconography’ (n. 46). Many scholars have discussed aspects of Minoan style (or as I have termed it ‘idiom’), so: Banti 1953, Forsdyke 1929, Hall 1907, Marwitz 1968, Matz 1952 and 1962, Schachermeyr 1961, Snijder 1936, Walter 1950. But perhaps the closest to an analysis of structural principles is to be found in the organization of motifs in Furumark’s *Mycenaean Pottery* (1941). The fullest analysis of image construction in the ancient world is H. Schäfer, *Principles of Egyptian Art* (Oxford 1974, first published 1919). The fundamental work on space and time in ancient art (including Aegean) is Groenewegen-Frankfort 1951.
 - 48 On the question of individual style I shall say only that a distinction can be made between the painter of the North Wall scenes and Ship Procession on the one hand, and The Landscape frieze on the other. This is not merely a question of scale (the Landscape plants and animals being relatively larger), but one of technical approach. Where outline and internal colour are used together in the North and South Wall scenes, the one encloses the other with precision. In The Landscape, on the contrary, line and colour frequently overlap and the sequence of applying paint can be closely observed. Areas of colour were first applied, followed by the details and the outlines. Thus the blue river and the yellow ochre surround were painted first and the black internal lines and red ochre surround lines were then overlaid with deft quick motions in which the areas of colours were not always contained within the lines. When referring to the paintings as a whole I shall, therefore, refer to ‘artists’ in the plural. It is hard to distinguish individual styles when comparing large panels with miniature scenes. The profile of The Priestess is, however, strikingly like those of the women from Xesté 3 (the red lips were painted after the profile and alter the overall appearance). One example of the same artist at work in different parts of the site is suggested by the swallows of The Spring Fresco and that of a fragment from Xesté 3 (*Thera* VII, pl. 39b). A proper study of the number of artists at work at Akrotiri would be instructive.

- 49 This situation has been reversed in the 20th century with artists such as Paul Klee creating their own working pictorial language. Klee's prolific notebooks constitute one of the finest analyses of pictorial structure ever written.
- 50 E.g. the Tiryns ship ring (Fig. 68), the Vapheio cups, the 'Boxer' rhyton from Ayia Triada, the Ayia Triada sarcophagus.
- 51 Plaster samples from Akrotiri have been analysed by X-ray fluorescence, X-ray diffraction and mineralogical examination. The results were presented at the Thera Congress (Filippakis 1978). The pigments proved to be very similar to those analysed at Knossos. The most comprehensive analysis of Aegean pigments and wall-painting technique is by Cameron, Jones & Philippakis 1977. On the technique and materials of the Knossos paintings see Heaton 1910 and 1911; Profi, Weier & Filippakis 1976; Cameron *et al.* 1977. On the Myrtos plasters: Cameron, Appendix IV, 305–14 in Warren 1972. On the Tiryns paintings: Heaton, 211–16 in *Tiryns* II. Pylos: Lang 1969, 10 and 229–30. Mycenae: Profi, Weier & Filippakis 1974. Kea: Abramovitz (Coleman) 1973, 286, 288, 297–300. On the pigments of the Ayia Triada sarcophagus: Levi 1956, 196. The general consensus on the pigments used in Minoan–Mycenaean painting is: *white*: calcium carbonate (both the lime-plaster and lime as an overlay pigment); *black*: carbon; *red* and *yellow*: iron earths – haematite and yellow ochre; *blue*: 'Egyptian blue' – silicate of copper and soda. The pink at Tiryns was found to be calcined (heated) yellow ochre, but is otherwise red with an admix of white. At Pylos a brown was thought to be raw umber. At Kea the deep blue was found to be an overlay of Egyptian blue onto black or grey (black and lime white). Lapis lazuli was used on the Ayia Triada sarcophagus. A natural blue pigment, produced from the mineral glaucophane, has recently been identified at Knossos and at Thera (frequently mixed with synthetic Egyptian blue). Filippakis *et al.* 1976; Profi *et al.* 1976; Cameron *et al.* 1977; Filippakis 1978. See also Buchholz 1980, 233–41 and n. 61 on glaucophane and jarosite (red). In Cretan paintings *green* was a blue–yellow mixture (*PM* I, 534) but a green pigment, probably malachite, was in limited use at Tiryns. Among the Knossos samples, one seemed to indicate use of a green pigment (unidentified but not malachite) (Cameron *et al.* 1977, 159, 170). The technique is usually thought to be a mixture of true fresco and secco; though dispute still continues. Cameron *et al.* 1977 argue for the use of buon fresco (though of a different nature to that of the Italian Renaissance). Asimenos 1978 considers the Thera paintings to be basically *al secco* (cf. Lang 1969 on Pylos), either tempera or water-based. Until the matter is settled, it is safer to refer to 'wall paintings' than to 'frescoes'. In this book the terms 'fresco fragments', 'House of the Frescoes', etc. are retained simply as conventions.
- 52 Cf. Asimenos 1978, 573–4.
- 53 Green in Minoan wall paintings was frequently used for foliage: Knossos, Lilies fragments (*PM* I, pl. 6, opp. p.

537); olive and myrtle shoots (*Fresco Atlas*, pl. D); House of Frescoes (Cameron, *BSA* (1968) col. pl. A; *PM* II, pl. 11, opp. p. 454). Caravanserai (*Prehistory & Protohistory*, 208–9); Amnisos, Lilies Fresco (Marinatos & Hirmer, col. pl. 22). And on Rhodes: plant fragments, lilies, myrtles (*Clara Rhodos* X, pls. 7, 11).

2 Plants and the environment

- 1 Sperling 1973, 8 (30) and n. 17.
- 2 Fouqué 1879, 97–8, 103–4, 114, 120–1, 127–8; Gaertringen 1904, III, 40. See also Marinatos 1939, 430–1; Vickery 1936, 26–7; Diapoulis 1971, 238–9; Sperling 1973, 8 (30–3). On the woods see below n. 10.
- 3 *Thera* VI, 16–17, pl. 23b.
- 4 Cameron 1976, 7–8, pl. 3c. The frieze came from House A at Prasa in an LM Ia context. N. Platon, *K. Chron.* 1954, 448–9; *Praktika* 1951, 246ff.
- 5 The main types are: (1) trunk divided into branches at the top, each ending in a circular or pear-shaped head filled with rows of leaves (Siege Rhyton, Pl. 191); (2) the leaves (or fruit) projecting outside the circular heads (Mochlos ring, Fig. 85). The two types may be combined (*CMS* I, no. 17; no. 126). Cf. *PM* II, 620.
- 6 *Thera* VI, 42.
- 7 Semple 1932, 266, 289; Turner, *TAW* I, esp. 771–2.
- 8 O. Rackham, 'Observations on the historical ecology of Boeotia', *BSA* 78 (1983) 291–351, esp. 344–7.
- 9 S. Marinatos, *AA* (1935) 255 (but cedar rather than cypress); cf. J. Renfrew 1972, plant remains at Myrtos include '*Pinus ? brutia* in small quantity'.
- 10 Fouqué 1879, 129; Galanopoulos & Bacon 1969, 121; Sperling 1973, 8 (31) and n. 20; Rackham 1978, 758. On wood used in the buildings at Akrotiri see below p. 78 and nn. 95–7.
- 11 On the relationship between altitude and vegetation see Hutchinson 1968, 43; Semple 1932, 265–6. Reference to botanical information throughout this chapter is mainly from the following sources: Grieve 1978; Huxley 1972; Huxley & Taylor 1977; Milne 1967; Moldenke 1952; Niebuhr 1970; Polunin 1969; Polunin & Huxley 1972; Semple 1932. Specifically on trees: Everett 1969; Mirou 1967; Polunin 1977.
- 12 See, for example, Polunin & Huxley 1972, 53–4, and Huxley & Taylor 1977, 67, *versus* Rackham 1972, 294, on the antiquity or modernity of the Aleppo in Greece; and Mirou 1967, 245–7, on the Stone pine.
- 13 See, for example, Theophrastus, *Enquiry into Plants* V 1.7–8 (ships' masts and yard-arms); V 7.1, 3, 5 (ships); V 7.4, 5 (buildings). Semple 1932, 270, 271–2.
- 14 Semple 1932, 282; Mirou 1967, 247; Brothwell 1969, 150–1.
- 15 Identified as fig by Evans (1901, 4) and Möbius (1933, 15). Evans suggested that the fragment shows a sacred temenos with grove. In the painting, the enclosure and trees are functional. Evans 1901 and Nilsson 1950, ch. 8 discuss cult associations.

- 16 *Scripta Minoa* II, 59–60; *Scripta Minoa* I, 220 (103). Cf. Ventris & Chadwick, 35, 272; and comparative table in *Prehistory & Protohistory*, 305 (line 8) and 156 (nos. 103 and 104). Ventris & Chadwick (273–4) have shown that the sign can be adapted to distinguish between the different stages of maturity of the tree.
- 17 Ventris & Chadwick, 31, 130.
- 18 Ibid. 220, 97 = Un 03 (2).
- 19 Ibid. 133 (Knossos), 267 (Pylos).
- 20 Ibid. 308, 512.
- 21 J. Renfrew 1973, 134–5. Evidence is sporadic, being largely from the Neolithic and EH (C. Renfrew 1972, 278; Hopf 1962, 4), with some from LBA (Vickery 1936, 56, 59; Hutchinson 1968, 243; Brothwell 1969, 146; Greig & Warren 1974, 130–2).
- 22 *Thera* II, 45.
- 23 Greece: Semple 1932, 394–6; Egypt: Moldenke 1952, 107, and Brothwell 1969, 146; Palestine/Syria: Moldenke 1952, 104–6.
- 24 Woenig 1886, 135.
- 25 Pliny, *Natural History* XX 70.117.
- 26 Heldreich 1899, 132.
- 27 *PM* I, 539, fig. 390; *Fresco Atlas*, pl. D, fig. 1.
- 28 *Scripta Minoa* I, 215.
- 29 Åberg 1933, 214, figs. 398, 399; and 226, fig. 431 (Gournia).
- 30 *BSA* 6 (1899–1900) 40.
- 31 *Thera* II, 11–12, pl. 5 (2). The context is unknown as the fragment may have been washed down from the northern sector of the site.
- 32 On grasses and reeds see Hubbard 1967.
- 33 *Thera* VI, 17, pl. 24b; *Thera* VII, 34, col. pl. L, pl. 42a. Full publication of the Xesté 3 paintings in a fascicule of the excavation reports is being prepared by N. Marinatos.
- 34 Also called *Arundo phragmites*, e.g. by Möbius 1933, 30.
- 35 Cf. the Xesté 3 fragment (above, n. 33); the tall reeds in the Partridge Fresco from the Caravanserai (*Prehistory & Protohistory*, 208); the reeds growing between irises in a formal garden in a painting from Amnisos (*PM* IV, Suppl. pl. 67a); the reeds in the Birds and Monkeys Frieze from the House of the Frescoes (Fig. 22). Those in a fresco fragment from Katsamba are closer to their alternate-leaved prototype (Alexiou 1955, 318, fig. 2); as is another fragment from the House of the Frescoes (*PM* II, 465, fig. 275J).
- 36 E.g. *Thera*: *Thera* I, col. pl. E (5); *Thera* III, pl. 49 (1 and 3); *Thera* IV, pls. 68, 70, 72; Maffre 1972, fig. 17. Zakros: Pl. 23. Phylakopi: Fig. 47. Rhodes: *Clara Rhodos* X, 60, fig. 10.
- 37 E.g. MM I pottery motifs from East Crete: Pendlebury 1939, 112, fig. 18 (6, 10, 12); MM IIb motifs: *ibid.* 138, fig. 23 (4, 6) cf. *ibid.* 202, fig. 36 (7) (LM Ia). But cf. comments below p. 29.
- 38 LM Ia: Popham 1967, fig. 1 (8), pl. 76 (a, c); LM Ib: *ibid.* fig. 2 (8), pl. 79 (a, e, f).
- 39 Reeds, ‘probably *Phragmites communis*’, were reported from the excavation at Fournou Korifi (Rackham 1972, 291) and brome grass, *Bromus*, from the excavation at Debla in western Crete (Greig & Warren 1974, 131). On the distribution of *Arundo donax* in Crete see: Rackham 1972, 291.
- 40 *Thera* IV, 21.
- 41 *Ibid.* 31.
- 42 Rackham 1972, 295. Cf. below, p. 81 and n. 136.
- 43 Woenig 1886, 132; Zeuner 1955, 371–2.
- 44 *AR* 22 (1975–6) 25.
- 45 Woenig 1886, 132; Moldenke 1952, 50 and 173; Polunin 1969, 532.
- 46 Warren 1976, cf. Betts 1978.
- 47 Southern Egypt, Sudan, Ethiopia, parts of Asia Minor and Palestine, and, in Europe, Sicily and Calabria. Delta papyrus disappeared with agricultural drainage. On papyrus see in particular Woenig 1886, 74–129; Möbius 1933, 17–19; Moldenke 1952, 92–4; Lewis 1974.
- 48 A fragment of flora from Xesté 4 may constitute a fourth example: *Thera* VII, pl. 31b.
- 49 *Thera* V, col. pls. E & F.
- 50 Warren 1976, 91; *Thera* V, 38–9.
- 51 For a comparison with the three-formed head see Fig. 10, faience pendant from the Temple Repositories. On the concept of the papyrus column: Borchardt 1897, 25–43; cf. the Egyptian scene in Pl. 188 (lower left).
- 52 Möbius 1933, 18. Cf. Woenig 1886, fig. 67.
- 53 *PM* I, pl. 4, right upper corner. Cf. Furumark 1941a, 139, n. 1.
- 54 Levi 1976, pl. 86 (5). The context included New Palace pottery (text 696).
- 55 T. G. Spyropoulos, *AAA* 4 (1971) 164. Cf. the carved roof of the side chamber of the Orchomenos tholos tomb which also includes papyrus in its decoration: Marinatos & Hirmer, pl. 161.
- 56 Lang 1969, 118–19, 36 C 17, pls. 61, 62, 136, G.
- 57 *Tiryns* II, pl. 1 (5).
- 58 Detail: *PM* II, 451, fig. 264. For the other versions see *PM* II, 455, fig. 266D (with leafy stem); Cameron 1967a, figs. 3–4 (leafy); 1968, col. pl. B, 3 (no. 33) (multiple heads); *PM* II, 477, fig. 285c (multiple heads; with double circles flanking the central bract, cf. eyed-butterfly, fig. 363–5); *ibid.* 465, fig. 275c (rosettes by stem); *ibid.* 479, fig. 286 (papyrus heads added to stems of ivy: miniature papyrus-head inside each ivy leaf (‘sacral ivy’); cf. Pernier 1935, pl. 18a: MM IIb spouted jar from Phaistos).
- 59 *PM* IV, col. pl. opp. 910. Cf. also sign 37 on the Phaistos Disk: *Prehistory & Protohistory*, 160.
- 60 Furumark 1941a, 261, fig. 33, motive 11; Warren 1976, fig. 4.
- 61 *PM* II, 456 and fig. 268, House of the Frescoes. Cf. Möbius 1933, 6–7.
- 62 Cf. the painted plaster altar from Phylakopi identified by Warren as papyrus and almost identical to Evans’ pan-cratorium: Warren 1976, fig. 7; *AR* 23 (1976–7) 26, fig. 33.
- 63 Rutkowski 1977; 1978, 663–4; 1981, 62ff.
- 64 The ‘waz’ and the papyrus fan-head were popular motifs for jewellery and clothing ornaments, the latter being

- worn by the Xesté 3 Ladies at Thera, both plain and with the internal lines of the naturalistic type (*Thera* VII, col. pls. E and G (centre). For further examples on paintings, pottery, and jewellery see *PM* II, 774ff.; Furumark 1941a, 148–9, cf. 315, fig. 53, motive 25 ‘bivalve shell’; Higgins 1980, fig. 13, pls. 7 (A), 9 (A), and first edition (1961), pls. 9–10. Furumark does not accept the equation of the central fan with papyrus.
- 65 *PM* I, 201, figs. 150 and 704; *PM* II, 480, fig. 287. For the wzd ‘papyrus’ ideogram see Gardiner 1957, 480, sign-list M 13.
- 66 *MM* I: *PM* I, 201, fig. 150d–h. *MM* II: *ibid.* col. pl. 1k, opp. p. 231 (Knossos).
- 67 E.g. Smith 1965a, pl. 47, relief from Weserkaf Temple, Saqqara, 5th dynasty.
- 68 Furumark’s statement that while the calyx tube was applied to other Egyptian plants it does not appear on papyrus (1941a, 138) is incorrect.
- 69 This feature does not seem to occur in early examples from Egypt but is occasionally assimilated later, in 18th and 19th dynasty representations (Smith 1965a, pls. 154, 162b).
- 70 Moldenke 1952, 92–4; Lucas 1962, 130–8; Brothwell 1969, 82–93, 115; Lewis 1974, 21–69.
- 71 Theophrastus, *Enquiry into Plants* IV 8.3–4; Pliny, *Natural History* XIII 22.71–3.
- 72 Sp. Marinatos, ‘Some general notes on the Minoan written documents’, *Minos* I (1951) 39–42. Cf. Betts 1967a, 22–3, pl. 1. But see Weingarten 1983, 38–44.
- 73 Cf. Warren 1976, 94 and n. 19.
- 74 The Throne Room at Knossos (n. 59). Cylinder seal, Hagia Pelagia, Crete: *PM* IV, 497, fig. 436 (cf. Ch. 3, n. 95). Sealing, Ayia Triada: Betts 1978, 68–9, fig. 15a–b. Ivory plaque, Mycenae: Hood 1978, 128, pl. 119.
- 75 Warren 1985, esp. 199–207, on the symbolic value of the garlands, each of which has two papyrus heads suspended from cords (?) in the centre, except one which has two ‘waz’ papyrus heads. On the House of the Ladies see N. Marinatos 1984b, 94–6.
- 76 Knossos: *Fresco Atlas* pl. IV, 8. Pylos: Lang 1969, 11 N nws, pls. 73, H. Mycenae: Kritselli-Providi 1982, pl. 1. Orchomenos: *Deltion* 28B’ (1973) 262, fig. 3γ.
- 77 The familiar reconstruction of the Throne Room paintings diverges notably from their description at the time of excavation. Palms do not appear in the reconstruction (*PM* IV, 905–15, col. pl. 32 (cf. 35c) and 921, fig. 895) but one is visible in the photograph of the throne and adjacent wall at the time of excavation (*PM* IV, 915, fig. 889), and in the initial reports palms were said to be on both north and west walls, with a ‘fern palm’ also on the latter (*BSA* 6 (1899–1900) 40). See also criticisms of the reconstruction by C. Hopkins, *AJA* 67 (1963) 416–19, and L. R. Palmer, *The Penultimate Palace of Knossos* (Rome 1969) 35–6, with further comments by M. A. S. Cameron, *BICS* 17 (1970) 163–4.
- 78 The motif of man in front of plant recurs on a local pottery sherd: *Thera* IV, col. pl. G (a).
- 79 Amphora from A 1: *Thera* II, 38, fig. 23; stone vessel from near Akrotiri village: *Thera* I, 58, fig. 88; Warren 1979b.
- 80 In the Mediterranean Littoral and North Africa during the Bronze Age there were three species of palm: the date (*Phoenix*), dum (*Hyphaene*) (both of which are known from Egyptian representations and thrive today), and the rarer *Medemia* (related to the dum and known from Egyptian finds of the stone (Wallert 1962, 20–1)). The dum branches from the base, thus having more than one head, and is a fan palm with a lobed leaf. On the palm see in particular Landsberger 1967; McCurrach 1960; J. Renfrew 1973; Wallert 1962.
- 81 E.g. Möbius 1933, 15. *Phoenix canariensis*, widely planted for ornament in the Mediterranean today and similar to *dactylifera*, is an import from the Canary Islands.
- 82 Greuter 1967, 243–50; 1974, 152.
- 83 Murray & Warren 1976, 46.
- 84 Greuter assumes that *Ph. theophrasti* is a close relative but not a direct descendant of the cultivated date palm. But the arguments – geographic and climatic position and the fact that the fruits are inedible – are not totally convincing. Cultivated palms can be imported north for various purposes and in such cases the fruit will indeed be inedible. The hearsay description of the Cretan palm by Theophrastus is more confusing than illuminating; his double or triple stem is more applicable to the African *Hyphaene* (which he subsequently discusses) than to any variety of *Phoenix* (*Enquiry into Plants* II 6.7–9).
- 85 *Thera* VI, 42.
- 86 E.g. British Museum 1914, pl. 7, no. 1 (Tomb of Nebamun?); Barnett 1976, pl. 14; Layard 1849, pls. 72–3; Frankfort 1970, 168, fig. 194 and 178, fig. 203.
- 87 The plant on the extreme lower right of the frieze, Pl. 7, is almost certainly wrongly reconstructed. The pinnate leaves should rise from a segmented trunk not from a smooth stem.
- 88 Cf. Morgan (Brown) 1977, 144; Rackham 1978, 757.
- 89 See in particular Landsberger 1967, 18, 22; Moldenke 1952, 171; Wallert 1962. Pritchard 1969, pl. 96, illustrates manual pollination. The latter process is mentioned by Theophrastus (*Enquiry into Plants* II 8.4).
- 90 See F. W. McCoy, *TAW* II, 79–100, on climatic change. Murray & Warren 1976, 47, nn. 22–3, for references to Cretan climate and the palm. Cf. McCurrach 1960, 163, on latitude and fruiting.
- 91 36°21’45’’: Gaertringen 1904, III.84.
- 92 *PM* II, 493.
- 93 Hamamât inscription on the 11th dynasty expedition: Woenig 1886, 309.
- 94 Hatshepsut’s Punt relief at Deir el Bahri: Naville 1893, pls. 69, 74, 78–9; Tuthmosis III’s relief at Karnak: Capart 1926, 176–7; Smith 1965b, fig. 199; Porter & Moss 1972, 120–1, for further bibliography.
- 95 D. Oates, *Studies in the Ancient History of Northern Iraq* (London 1968) 46, n. 1.

- 96 The palm grove at Vai is said to have grown accidentally from the kernels of dates eaten by Phoenician merchants while they were anchored there (Davaras 1976, 334). The legend may have a linguistic rather than a geographic origin. Murray & Warren point out that towns called Phoenix on the south coast of Crete may as well mean 'places with palm trees' as 'places where the Phoenicians landed' (1976, 58). Cf. Moldenke 1952, 171, *re* the Bible, Acts XXVII 12.
- 97 Chadwick 1976, 121. See also Murray & Warren 1976, esp. 47 and Appendix I, on *po-ni-ki-jo* and its possible relationship to Greek *φοινικ*- words. Here, however, the linguistic associations noted are those of the root *φοιν*- meaning 'red'. The issue is complex, for a tree, a land, a colour and a mythical bird all share the word phoenix.
- 98 J. Renfrew 1973, 152.
- 99 Friedrich *et al.* 1977, 30; Friedrich 1978, 742; 1980, 122 (here thought to be *Ph. theophrasti*).
- 100 Marinatos 1939, 430; Hutchinson 1968, 243; Diapoulis 1971, 239. Hutchinson states and Diapoulis implies an Early Bronze Age date. For modern (19th-century) reports of the palm on the island: Fouqué 1879, xvii; Heldreich 1899, 73; Bent 1965, 139.
- 101 From Kythera a local MM IIIb jug is decorated with stylized palms hybridized with lily (Coldstream & Huxley 1972, pl. 73 and p. 283). Of later date, a Palace Style jar from Kea is decorated with palm trees; probably Cycladic, it nonetheless imitates Mycenaean prototypes (Cummer and Schofield 1984, 89, no. 982, pl. 66).
- 102 Pelagatti 1961–2. There are two types, taller 'adult' and shorter, squat 'young' trees. Adult palms: Pelagatti 1961–2, pl. Z' (3–4), pl. H' (1) (C 5837) pl. H' (2) (F 969), pl. Θ' (I) (left); Åberg 1933, 161, fig. 291. Young palms: Pelagatti 1961–2, pl. Θ' (I) (right); Åberg 1933, 161, fig. 290. These two, however, are on cups rather than on tall jugs like those painted with adult palms; so the distinction may be one of fitting the decoration to the vessel rather than of botanical observation.
- 103 See comments by W. C. Brice, *South-West Asia. A Systematic Regional Geography* VIII (London 1966) 38–9, regarding the south coast palm groves of Crete and Cyprus. I am grateful to Mr Peter Dorrell for drawing my attention to this.
- 104 Assigned by Evans to MM IIb (*PM* I, 254, fig. 190a; *PM* II, 493); but by Hood to MM III, *c.* 1600 (Hood 1978, 36).
- 105 *PM* II, 496, fig. 301E, G–K (LH II); Furumark 1941a, 277, fig. 38, motive 14.
- 106 Cf. *PM* II, 494, fig. 299 (Kenna 1960, no. 112, pl. 5): bead-seal from central Crete with young plants derived equally from the whole but trunkless palm head and from the individual leaves, a form of juxtaposition which enables us to identify other leafy boughs as belonging to the palm (see n. 121 below).
- 107 Note that although olive trees also occur on the cup with palms, their function there is to hold a net (tied to each) which has been used to capture a bull, i.e. the cultivated is utilized to tame the wild. (See Marinatos & Hirmer, pls. 178–81 for the cup with palms (E. Davis' 'violent cup' (1977)), and pls. 182–5 for the cup with olives (Davis' 'quiet cup').
- 108 Betts 1967a, figs. 7b, 8a, 8b.
- 109 Crete: CMS I, no. 505; AR 8 (1961–2) 29, fig. 39 (LM Ib deposit, Royal Road, Knossos). Pylos: CMS I, no. 358; Mycenae: CMS I, no. 71.
- 110 Brothwell 1969, 82, 145, 168; Forbes 1955a, 285; Landsberger 1967, 13–14; Lucas 1962, 21–3; Milne 1967, 275; Wallert 1962, 22–32; Woenig 1886, 311–12. (See also Herodotus, *Histories* II 86, on mummification.)
- 111 The hand is the fragment of red ochre at the base of the surviving leaves; the thumb is on the right. This fragment was not joined in the photograph published in *Thera* II, col. pl. B (3). Cf. the Investiture wall painting from Mari where figures climb palms in order to pick the dates (Strommenger & Hirmer 1964, pl. 29).
- 112 *Thera* VI, 22–3. Sawn palm logs were used in Egypt for roofing (Zeuner 1955, 371). Later, Theophrastus refers to the wood for carving (*Enquiry into Plants* V 3.6).
- 113 Landsberger 1967, 23; Lucas 1962; Moldenke 1952, 170; Wallert 1962, 24–8; Zeuner 1955, 371. Cf. Theophrastus, *Enquiry into Plants* IV 2.7.
- 114 Wallert 1962, 24, 28; Landsberger 1967, 40, on the mention of palm by-products in shipbuilding in cuneiform texts.
- 115 For legends associated with the palm see in particular Moldenke 1952, 172. In connection with Palm Sunday, note that Christ's triumphant entry into Jerusalem occurred shortly after the resurrection of Lazarus and shortly before Christ's own death and resurrection.
- 116 *Phoenix* also has the meaning 'red' (cf. n. 97).
- 117 J. G. Frazer, *The Golden Bough* (London 1967) 805, 808. Cf. Moldenke, *loc. cit.*, on the fire-festival of All Souls Day.
- 118 Frankfort 1961, 96–7 (*Ba*); Woenig 1886, 304 (Victory); Wallert 1962, 142 (Time); Darby *et al.* 1977, 729 (Time).
- 119 Wallert 1962, 141.
- 120 Hesiod, *Homeric Hymn to Delian Apollo* 17–18, 117; Callimachus, *Hymn IV (To Delos)* 210. The date palm was said to grow by the altar to Apollo on the island: Homer, *Odyssey* VI 162–3; cf. Herodotus, *Histories* II 155–6, who describes a temple of Apollo on a floating island at the mouth of the Nile with many palm trees.
- 121 E.g. CMS I, no. 231 (Vapheio). On the palm and Minoan religion see N. Marinatos 1984c.
- 122 Theophrastus, *Enquiry into Plants* II 6.10–11.
- 123 Friedrich *et al.* 1977, 30 and fig. 7; Friedrich 1978, 742; 1980, 122–3 and fig. 16.
- 124 Furumark 1941a, 155 and 281, fig. 40, motive 16 (1). Furumark comments that there is a chronological distinction in the 'dentate band plant' between an earlier 'cactus-like form' and a later 'characteristic "grass or reed" pattern' (155). The first type does not, however, disappear with the arrival of the second. E.g. LM Ib amphora and jug from Zakros: Platon 1971, 117, 113; or the Thera

- amphora in Pl. 38 and the ewers in *Thera* IV, pl. 68a–b. For other examples of the squat plant see Åberg 1933, 160, fig. 289; *PM* I, 264, fig. 197; Furtwängler & Loeschecke 1886, pl. 19, 135.
- 125 Mentioned in *Thera* V, 38 (cf. *Thera* IV, 46). No photograph has yet been published, but the painting is included in a reconstruction drawing of the Room of the Monkeys in N. Marinatos 1984b (fold-out D, fig. 83), and is on exhibition in the National Archaeological Museum at Athens. Marinatos called the fragmentary animals 'calves' but judging from their hooves they are more likely goats.
- 126 Cameron 1968.
- 127 Cf. Cameron 1978, 580, 582, on comparisons between (1) the crocuses of Xesté 3 and the House of the Frescoes; (2) the Theran Monkeys frieze and the Knossian Birds and Monkeys. Also the author's comments, *TAW* II, 317–18, as above.
- 128 *Thera* VII, 32–8: col. pls. B–E. N. Marinatos 1984b, 61–84 and figs. 40, 43, 49, 52, for reconstruction drawings. For a discussion of the crocuses see Douskos 1980.
- 129 Crocus clumps in the Theran painting associated with The Monkeys (n. 125); in the House of the Frescoes (*PM* II, 458–9, fig. 271; cf. comments by Möbius 1933, 8; Cameron 1968); in the Ayia Triada painting mentioned below (n. 130); in a fragment from Savakis' Bothros at Knossos (Cameron 1976, 5–13, fig. 3a and pl. 3a–b); also applied to the skirts of the Knossos faience figurines (n. 130).
- 130 Rodenwaldt 1927, figs. 110–11; reproduced in Smith 1965b, fig. 108. Clumps of crocuses decorate the skirts of two of the faience votive figurines from the Temple Repositories and plaques of crocus flowers were associated with these figures (*PM* I, 506, fig. 364a–b and 499–500, fig. 358; *PM* IV, 1013, fig. 963).
- 131 *PM* I, 265, pl. 4; *PM* II, 354. Platon 1947.
- 132 Xesté 3: *Thera* VII, 33–4. Glyptic: seal impression from Ayia Triada with votive monkey surrounded by crocus blooms (Halbherr 1903, 39, fig. 32 = *PM* II, 764, fig. 492b; cf. Nilsson 1950, 370, fig. 178, said to be the same impression but with notable differences); simian votary before a female figure (*PM* II, 764, fig. 492a and c; seal impression, Zakros, gold ring, Phaistos); seal impression from Zakros with a male tending a crocus bloom adjacent to horns of consecration on an altar and a smaller female figure above (the goddess evoked) (Nilsson 1950, 283, fig. 142; identified by Nilsson as a tree but with petal divisions indicative of crocus).
- 133 Knossos: AR 28 (1981–2) 52; Warren 1985, 189. Palaikastro: Bosanquet & Dawkins 1923, 148, fig. 130. Also in the room (e 18) was part of a relief of an arm: the Gatherer? See also the recent discussion by Cameron & Jones 1976, 15–19. Rhodes: *Clara Rhodos* X, pl. 9, colour drawing, opp. p. 86.
- 134 Sometimes the two types are confused and the stigmas become narrow petals (e.g. MM I sherd from Palaikastro, Bosanquet & Dawkins 1923, pl. 10 b). Both types occur simultaneously on a pot from Gournia (Åberg 1933, 223, fig. 424 (= Hawes 1908, fig. 21); the more abstract three-petalled variety can be seen on an LM Ib amphora from Zakros (Platon 1971, 117 above); and an idiosyncratic hybrid can be seen on an MC jug from Melos, with stigmas but with a stalk with leaflets (Atkinson & Bosanquet 1904, pl. 23 (5)).
- 135 Basic three-petalled head growing in groups with leaves (*Thera* V, pl. 62c, imported mainland?); disembodied head floating amongst spiral decoration (*Thera* IV, pl. 64); stigmas pointed like extra petals (*Thera* IV, pl. 74); multiple stigmas (*Thera* V, pl. 64, imported Cretan); heads with one stigma each side (*Thera* VI, pl. 74a, right); heads with two stigmas each side and hybrid leafy stem (*Thera* VII, pl. 51); multiple flowers growing up a single stem (*Thera* V, pl. 61a). A few are fill decoration; most grow from a base line, occasionally from a hill-like mound (*Thera* II, pl. 11 (1)). Sometimes quadrupeds gambol and sniff amongst them (*Thera* VI, pls. 80–1, kymbai; Maffre 1972, 37, fig. 23, oinochoe); or swallows fly past them (*Thera* VII, pl. 47c; cf. association between swallow and crocus in a fragment of wall painting from Xesté 3: *Thera* VII, pl. 39b).
- 136 Persson 1942a, frontispiece, 89–90, fig. 100 (37), 137–41. Persson took the motif to be a rock-border comparable to that on the Dendra octopus cup illustrated here as Pl. 49. It is argued below (p. 37) that the motif on the octopus cup derives its inspiration partly from young palms and their association with water. On the bird goblet the motif is rounded rather than pointed and is derived partly from the crocus as stylized on the Theran ship, no doubt with the marine borders of rock and algae mingled into the conception.
- 137 Furumark 1941a, 333, fig. 56, motive 38. Cf. Bolton 1976, who implies that the inclusion of the motif in the painting must indicate an LM Ib date for its execution.
- 138 Betancourt 1982, 34–5, list by site; to these add Knossos: P. M. Warren, AR 27 (1980–1), 78, fig. 14; Kea: Cummer and Schofield 1984, pl. 53 y, pl. 77 (1223), pl. 85 (1547).
- 139 Furumark (1941a, 149) compares these to papyrus.
- 140 *PM* IV, 284ff.
- 141 *PM* II, 680, fig. 430a (fragment from the Earlier Entrance Passage at Knossos); *PM* I, 546, fig. 398 (Ladies in Blue).
- 142 As discussed in Morgan 1984. The motif also occurs on a Marine Style amphora fragment from Grave Rho, Mycenae: Mylonas 1973, pl. 199a.
- 143 *Prehistory & Protohistory*, 157–8. Cf. *Scripta Minoa* I, 213, sign no. 88.
- 144 *PM* I, 281–3, fig. 215.
- 145 *Scripta Minoa* II, 59. Cf. comparative signs of the script in *Prehistory & Protohistory*, 305. Because of the large quantities recorded, Ventris & Chadwick (35, 130) consider the Linear B sign not to represent saffron, though they identify another sign with the product.
- 146 Pliny, *Natural History* XXI 17.31.
- 147 Cf. *PM* II, 464.
- 148 Möbius 1933, 8–9.
- 149 Theophrastus, *Concerning Odours* 27.
- 150 Forbes 1955a, 246.
- 151 Crocus stigmas would normally be dried naturally, but in

- a priestly ritual the use of a brazier is plausible (see Forbes 1955a, 263). Grieve also describes a process involving heat and pressure (1978, 699).
- 152 Cf. Morgan (Brown) 1977, 145; J. L. Davis 1979, 147; Douskos 1980.
- 153 Pliny, *Natural History* XXI 17.31–2.
- 154 Naval Intelligence I, 35. Bintliff 1977b, 5–7.
- 155 Stucchi suggested that the two peninsulas in the painting represent Akrotiri on the right and the south-eastern tip of Therasia on the left (1976, 57–8), a suggestion which is invalidated by the general consensus amongst geologists and vulcanologists that the two points were joined until the collapse of the centre of the island which occurred after the eruption of the 15th century (*Acta* 1971; TAW, esp. II, plans on pp. 17 and 422–3). Even if there had been an earlier, small caldera or marine crater (see below), it could not have existed here. When the centre of the island collapsed, it took with it half of the building at Balos on the north cliff of the peninsula; the building was contemporary with the settlement at Akrotiri (Fouqué 1879, 118ff., plan by Gorceix p. 119; Sperling 1973, 14 (48) and fig. 19).
- 156 On Minoan harbours see Marinatos 1933, 193–4; 1934; Frost 1963; Hutchinson 1968, 95, 100; Branigan 1970a, 192–5 (Early Minoan).
- 157 H. Pichler & W. L. Friedrich, TAW II, 16; Doumas 1983, 55–6, and fig. 2.
- 158 Denham 1970, 21.
- 159 Cf. Doumas 1983, 55–6.
- 160 Naval Intelligence III, 473; Diapoulis 1971, 239; Puchelt & Hoefs 1971, 318–19; Sperling 1973, 2 (4); Davis & Bastas, TAW I, 61–79 and fig. 1; Einfalt 1978, 525; TAW II, geological map of the Santorini Islands by M. Pichler and S. Kussmaul.
- 161 Naval Intelligence III, 475.
- 162 See for example van Bemmelen, *Acta* 1971, 10–11; Friedrich 1978, 741.
- 163 As demonstrated by the history of the volcanic island of Krakatoa. An initial prehistoric volcanic eruption (of Plinian type as at Thera) caused the collapse of all but a small portion of the outer rim of land; in the marine caldera, areas of land gradually emerged (much as the Nea Kameni islands have done in the recent history of Thera) as a series of volcanic cones, the largest of which finally erupted in 1883 causing the newly emerged land to collapse back into the sea in the present large caldera (Holmes 1966, 337, fig. 245). The suggestion that the present topography of Thera is the result of several composite calderas is made by Yokoyama, TAW II, 361.
- 164 Luce 1970, pl. 12, col. pls. 1, 11.
- 165 Vitaliano, *Acta* 1971, 95.
- 166 Rackham 1978, 759. Cf. TAW II, 292. Colour photographs of the Spring Fresco: Thera IV, col. pls. A–C.
- 167 Lang 1969, 3, 10 nws, pl. Q; 9 F nws, pl. R.
- 168 Marinatos & Hirmer, pl. 109 (above).
- 169 Lang 1969, 9 F nws, pls. 83, J, R.
- 170 Thera VI, pl. 80.
- 171 Cf. Lang 1969, 124.
- 172 PM II, 450–4.
- 173 PM II, 452; PM I, 177–8, cf. fig. 127.
- 174 PM II, col. frontispiece, 112, fig. 51; 115, fig. 52.
- 175 PM III, 171, fig. 115.
- 176 CMS I, no. 185.
- 177 Forsdyke 1929, pl. 10 (1); Kenna 1960, 61, fig. 131, pls. 12 and 23, no. 297.
- 178 Cameron 1967a, and 1968.
- 179 PM II, 448–51.
- 180 Evans published a fragment which he described as a ‘fountain’ or ‘jet d’eau’ (PM II, 461, fig. 272; cf. Matz 1956, pl. 35); but Cameron has shown this to be a waterfall – there being no evidence for the spray which Evans reconstructed as rising from the column of water, nor for the forked base (Cameron 1967a, 60, fig. 5) – and found other fragments of ‘at least two waterfalls’ in the Herakleion Museum (Cameron 1968, 19).
- 181 E.g. Pritchard 1969, pl. 685 (Akkadian), pl. 356 (Assyrian).
- 182 As in Pritchard 1969, pl. 685. In the Aegean, the only instance known to me of this usage is on the Knossos ring-impression drawn in Fig. 28 though it occur ambiguously in the Knossos serpentine fragment of an archer (PM II, 106, fig. 59; Warren 1969, P 473): is he shooting from the sea, standing on the prow of a ship, or climbing a hill? It also recurs as surface ornament on an architectural fragment (dado?) from the palace at Thebes (Keramopoulos, AE 1909, fig. 19; Vermeule 1972, 169, fig. 31).
- 183 Atkinson & Bosanquet 1904, 72, fig. 60.
- 184 Cf. Bosanquet & Dawkins 1923, pl. 21 (Palaikastro); PM II, 509, fig. 312a (Marseilles Ewer); Seager 1910, 32, fig. 13 (Pseira); Platon 1971, 122 (Zakros); Dawkins & Droop 1910–11, pl. 11 (137) (Phylakopi). When the sign stood for ‘sea’ alone – on the Mycenae Siege Rhyton, the Pseira rhyton – it has a net-like structure which Furumark classified as related to the ‘tricurved arch’, itself related to rock (Furumark 1941a, motive 62, fig. 68), but once transferred to inside marine rock the sign is simplified into a scale-like pattern (cf. Furumark 1941a, motive 70, fig. 70).
- 185 Marinatos & Hirmer, pl. 171.
- 186 On the forerunners of the Marine Style see PM II, 453, 500–12. MM II ceramics with stylized marine rock: Pernier 1935, pl. 30 (b); PM IV, 117, fig. 83; PM I, 182, fig. 131 (a & b) and col. pl. 1 (b, d). MM IIb seal impression from Knossos: PM I, 273, fig. 202b. MM III–LM I seal from Palaikastro: PM I, 675, fig. 495. Relief container from the 1st Palace at Phaistos: Levi 1976, pl. 79. On LM Ib Marine Style see Mountjoy 1974 and 1984.
- 187 The Knossos example is one of two stone vessels: PM II, 504, fig. 308 (dolphin); PM II, 503, fig. 307 (octopus); Warren 1969, 88–9. Assigned by Evans to MM IIIb, by Hood to LM I (1978, 143), and by Warren to LM II–III AI (though ‘in typical LM Ib Marine Style’, *ibid.* 88). For the cup see Karo 1930, pl. 103 (73).
- 188 Thera VI, col. pl. 11, pls. 80–1.
- 189 Thera IV, pl. 82.
- 190 Luther & Fiedler 1976, 18, cf. 250.

- 191 As discussed in Morgan 1984.
 - 192 Cf. Caskey, *Hesperia* 31 (1962), pl. 96e; 41 (1972) pl. 95 (H8); Cummer & Schofield 1984, pl. 60 (681).
 - 193 Furumark 1941a, 325–6, motive 33. On the Dendra cup see Hurwit 1979.
 - 194 PM II, 500. The identification was partly due to mistaking an associated fragment for an argonaut (Cameron has now shown it to be a bird's wing: 1967a, 62; 1968, 5 n. 17), but partly because of the black outline of curves and projections familiar from marine rock and algae.
 - 195 Cameron 1967a, 62–3.
 - 196 Cf. Furumark 1941a, 327, fig. 55, motives 33 and 34 (2); 323, fig. 54, motive 32 (15); 391, fig. 68, motive 62 (2, 3); 277, fig. 14, motive 14 (4).
 - 197 Naval Intelligence I, 13. On rivers in the Mediterranean see Semple 1932, 102–33; also Hutchinson 1968, 39–40, on Crete.
 - 198 Thera I, 10–11, fig. 16.
 - 199 Marinos, TAW I, 304; cf. TAW II, 290.
 - 200 Naval Intelligence III, 474. Cf. Marinos, *op. cit.* (n. 199) 297–305, esp. fig. 1 (no. 6).
 - 201 PM II, 448, 467; cf. Cameron 1968, 5.
 - 202 Cameron 1968, 19 n. 50, citing Dr Gartlan (detail of the scene: 21, fig. 10).
 - 203 Platon 1947, 515; 1957, 130. Matz 1956, 114.
 - 204 South House: PM II, 378–9, fig. 211. Katsamba: Alexiou 1955, 318, fig. 2. Caravanserai: PM II, frontispiece, 109–16. Lilies from Knossos: PM I, col. pl. 6; Ayia Triada: PM I, 604f.; Bossert 1937, fig. 244; Pernier & Banti 1947, fig. 43; Phylakopi: Atkinson & Bosanquet 1904, 76, fig. 64; Rhodes: *Clara Rhodos* X, col. pl. 7. Crocuses from Knossos: Cameron 1976, 5–13; Palaikastro: Bosanquet & Dawkins 1923, fig. 130; Cameron & Jones 1976. Kea: Abramovitz (Coleman) 1970, 161–3, 185–8; Abramovitz 1980, 71–6, pls. 8, 9, 10a.
 - 205 Lilies: Spring Fresco (Thera IV, col. pls. A–C); Isopata ring (Nilsson 1950, 278–80, fig. 139); Procession Fresco, Thebes (Reusch 1956, 15, fig. 3, pl. 1); gold ring from Mycenae (CMS I, no. 17). Crocus: Saffron Gatherer (PM I, 265, pl. 4; PM II, 354; Platon 1947, 565f.); Crocus Gatherers, Thera (Fig. 87 and Thera VII); Ayia Triada wall paintings (PM I, 539; Rodenwaldt 1927, pls. 110–11); Bossert 1937, fig. 245; Matz 1956, pl. 49, below).
 - 206 PM IV, Suppl. pls. 67b (lilies) and 67 (iris and reeds). Marinatos & Hirmer, col. pl. 22 (lilies). Cameron 1978, 581, pl. 1 (conjectural restoration).
 - 207 *Iliad* XXI 257–64; *Odyssey* VII 112–31.
 - 208 On gardens in the ancient world see Semple 1932, 474–504.
 - 209 E.g. National Geographic Society 1978, col. pl. on p. 113 (Tomb of Nebamun?, British Museum). Davies 1935, col. pl. 20 (Tomb of Rekhmire). See in particular Moens 1984; also Erman 1971, 193–6.
 - 210 Pritchard 1969, pl. 95.
- ### 3 Animals and birds
- 1 See for example Muybridge 1957 (first published 1899), pl. 127: photographic sequence.
 - 2 Negbi 1978, 650.
 - 3 The cheetah frequents grasslands and semi-deserts. It was, however, tamed by the Egyptians and used in hunting gazelle (Zeuner 1963a, 417–19; Clutton-Brock 1981, 178); cf. the 'tribute' scene in the tomb of Rekhmire where the animal is led, alive, by foreign representatives (Davies 1935, pl. 22, upper register, fifth from left).
 - 4 Walker *et al.* 1975, 1274.
 - 5 Keller 1963, I. 67; Snijder 1936, 34. A serval has been identified on an 18th dynasty painted tile, but the animal is considered to have been imported to Egypt (Zeuner 1963a, 391).
 - 6 *F. silvestris*: Pocock 1951, 32 and 45; Walker *et al.* 1975, 1273, frontispiece; cf. Hamilton 1896, iv, 4–6, 37–42 and frontispiece. Keller 1963, I.64 (here called *F. catus*). *F. lybica* and *F. chaus*: Pocock 1951, 50–133, esp. 52, and 150–78, esp. 150; Walker *et al.* 1975, 1274 and 1275, pl. F. Nowadays, *F. lybica* is treated as a sub-species of *F. silvestris* (*F. silvestris lybica*): Clutton-Brock 1981, 107.
 - 7 Bate 1905; Evans, PM I, 540.
 - 8 Pocock 1951, 10; cf. 6 n. 1.
 - 9 Hutchinson 1968, 38.
 - 10 During the New Kingdom a religious ruling enforced restrictions on the export of cats (Hamilton 1896, 82; Zeuner 1963a, 396; Keller 1963, I.68, 71).
 - 11 Zeuner 1963a, 389; cf. King 1953, 436.
 - 12 Kea: J. L. Caskey, *Hesperia* 35 (1966) 375. Thera: Fouqué 1879, 114. For other reports see C. Renfrew 1972, 269 (Neolithic Sitagroi); King 1953, 436 (Neolithic/Chalcolithic Erimi on Cyprus); W. A. Heurtley, BSA 30 (1928–30) 147, and Vickery 1936, 39 (uncertain identification, LBA Seratse).
 - 13 Chadwick 1976, 133. *Scripta Minoa* I, 209 (75).
 - 14 Detournay *et al.* 1980, 120–3, figs. 170–5. Another body of a cat, also in moulded clay relief, was found in Quartier Thêta: H. & M. van Effenterre, *Études Crétoise* 22 (1976) 4, 9 (drawing), pl. 18. A cat's head, of similar type to those from Quartier Mu, was found at the peak sanctuary of Prinias in the Sitea region (referred to by Detournay *et al.* 1980, 123 n. 1; C. Davaras, *Hagios Nikolaos Museum*, Athens, pl. 40).
 - 15 Notable of which are: a terracotta head of a cat from Palaikastro, thought by the excavators to be a fragment of an LM rhyton (Bosanquet & Dawkins 1923, 54, fig. 42); and a feline model associated with one of the faience female figurines from the Temple Repositories at Knossos and reconstructed as part of the head-dress (PM I, 503–5, fig. 362). The latter was identified by Evans as a lioness (albeit spotted); and by Hood as probably a leopard (1978, 133).
 - 16 Hood 1978, 216, fig. 214; PM I, 277, fig. 207a; Kenna 1960, 113, no. 174.

- 17 Marinatos & Hirmer, col. pl. 38, pl. 171.
- 18 Karo 1930, pl. 26 (50).
- 19 Ibid. 59.
- 20 Monochromed coats are a feature of animals long kept in captivity (Zeuner 1963a, 398) and are inapplicable to wild or recently domesticated cats. Cf. the domestic striped tabby in Pl. 187.
- 21 Smith 1965b, 77. Unpublished additional fragments, on exhibition at the Herakleion Museum.
- 22 See Cowie 1966 and Walker *et al.* 1975.
- 23 J. G. Younger, *BICS* 26 (1979) 120.
- 24 Herodotus, *Histories* VII 125–6. See also comments by Warren 1979, 123 and n. 29.
- 25 C. Renfrew 1972, 289; N. G. Gejvall, 'The fauna of the successive settlements of Troy', *Kungliga Humanistiska Vetenskapssamfundet Lund* (1938–9) 5.
- 26 AR 25 (1978–9) 16.
- 27 Personal communication, Dr J. P. Coy. Also: J. Davis 1980, 288.
- 28 Hogarth 1902; Weingarten 1983.
- 29 See also the creature designated 'dragon': D. Levi, 'Gleanings from Crete, I. The Dragon of Babylon in Crete?', *AJA* 49 (1945) 270–80; M. A. V. Gill, 'The Minoan dragon', *BICS* 10 (1963) 1–12; J.-C. Poursat, 'Notes d'iconographie préhellénique: dragon et crocodiles', *BCH* 100 (1976) 461–74.
- 30 Xanthoudides 1924, 83, pl. 8, no. 821 (Kalanthiana); pl. 13, nos. 1039, 1103, 1044, 1040, 1104, 1129, 1113, 1092, 1087 (Platanos); pl. 8, no. 680? (Porti). Branigan 1970a, 141 and fig. 29 (21) = Xanthoudides, pl. 13, no. 1129. With one exception, in which the seal takes the form of a lion crushing a man, the animal takes no apparent role.
- 31 See, in particular, Wreszinski 1932.
- 32 Cf. the glyptic theme of lions flanking a column: Nilsson 1950, 250, fig. 119; CMS IV, no. 304. Recent excavation at Pellanes, near Sparta, revealed a tholos tomb with 'a shallow engraved drawing of an animal – ?lion – at the entrance' (AR 28 (1981–2) 24). Large stone lions protected the gateways of the Hittite citadels at Boghazköy and Malatya, and were carved on the door jambs at Alaja Hüyük (Akurgal 1949, 39–79; col. pls. 16 and 17 (Boghazköy); pl. 103 (Malatya); pl. A, 2 (Alaja Hüyük). In the Levant, lions guarded entrances at Alalakh in the 13th century (Frankfort 1970, 273, pls. 319 and 320) and, later in the 9th century, at the Palace of Kapara at Tell Halaf (*ibid.* 293, pl. 341), at Zinjirli and Sakcagözü (Akurgal 1949, pls. 132, 134, 135).
- 33 Lang 1969, Throne Room and Room 46: 99, 101, 103, 110–18, pls. 57–60, 134, F, P; architectural façade fragments 2 A 2 and 3 A 20: 137–8, pls. 76, 77, 136.
- 34 The drawing is reconstructed from several partial seal impressions from the Central Shrine area: PM II, 808; Gill 1965, 71, nos. M1–5, pl. 11. For the theme of woman and lion(s) cf. CMS V (1), no. 253, and Nilsson 1950, 358, fig. 169.
- 35 Nilsson 1950, 357f.; PM IV, 169, fig. 132; CMS I, nos. 144, 145; CMS IV, no. 295; CMS X, no. 242. For a reinterpretation of the object held as horns see Hägg & Lindau 1984.
- 36 E.g. Frankfort 1970, 41, fig. 33, an early example on a Sumerian stone vase from Khafaje, central Iraq.
- 37 Near Eastern examples: Wreszinski 1932, pls. 2, 5, 7; Frankfort 1939, pl. 13a. Aegean instances: PM IV, 467, fig. 391; CMS I, no. 89; CMS I, Suppl. no. 27; CMS II (1), no. 442 (?); CMS IV, no. 293; CMS V, no. 675 (cylinder seal, Thebes); CMS VII, no. 173 (cylinder seal, Cyprus), CMS IX, no. 153.
- 38 PM I, 716, fig. 539b (Knossos sealing); Hogarth 1902, 87, nos. 104, 110 (?), 117, pls. 9–10 (Zakros sealings); Levi 1925–6, 111, fig. 103 (Ayia Triada sealing), 164, fig. 178 (Zakros sealing). The theme may be expressed in a fragment of stucco relief from the S.-E. angle of the palace at Knossos (PM II, 333, fig. 188).
- 39 Poursat 1977a, 68–70, 79–82, pls. 5 (5), 12 (1–4), 13 (1–4), 15 (5, 6), 16 (1, 2, 4), 18 (2, 4), 19 (3), 22 (3, 6).
- 40 Marinatos & Hirmer, pl. 146. For stelai (from Circle B) carved with lions attacked by men see Mylonas 1970b.
- 41 Marinatos & Hirmer, pls. 198, 199 (below); Karo 1930, pls. 143–4 (nos. 808–11).
- 42 PM I, 505, fig. 363a (Knossos); fig. 363c (Ayia Triada).
- 43 PM III, 122. Cf. PM IV, fig. 555; CMS I, no. 228. Even more implausible are sealings from Pylos, in which two men (or the same man twice) each wrestle with a lion, unarmed (CMS I, no. 307; CMS I, Suppl. no. 173) cf. a gold ring in the Peronne Museum (Hood 1978, 226, fig. 229) with identical subject but with the addition of swords. This sort of bravado has little to do with the reality of lion-hunting, though it expresses the same aspiration. It is perhaps comparable to the Assyrian depictions of lion-fights familiar from the reliefs from Kuyunjik (Frankfort 1970, 186–91, pls. 209–14; Barnett 1976, pls. 18–20). The 'fight' in this case took place in the royal park of Assurbanipal, where captured lions were caged for sport. Once released from the cage, the lion was surrounded by warriors protected by shields and spears and was then killed by the king either by arrows or through close-range tactics with a sword. Yet the scene as depicted looks more dangerous than it really was. The bodyguard has been reduced to a few men and the king's protective arm-wrapping of a thick goat's hair which he wore on such occasions, omitted. The king is thereby portrayed as omnipotent in the face of danger.
- 44 E.g. CMS I, no. 10 (Shaft Grave III, Mycenae); no. 248 (Vapheio); no. 277 (Pylos).
- 45 PM III, 120, 122. Cf. Renfrew 1972, 289.
- 46 Herodotus, *Histories* VII 125–6. Repeated by Pausanias VI 5.4–5, and Aristotle, *History of Animals* VI 31.579.
- 47 Mylonas, AAA 3 (1970) 421–5.
- 48 Usually identified as gazelle, e.g. PM III, 123.
- 49 E.g. CMS I, no. 15.
- 50 Marinatos & Hirmer, col. pl. 37 (below).
- 51 Karo 1930, no. 295, pls. 75, 76, 78.
- 52 Ibid. pls. 76, 77 (295).

- 53 Mylonas 1973, 86, fig. 8.
- 54 PM IV, 866, fig. 851; Marinatos & Hirmer, pls. 112 (right) and 113 (above). The mainland deer is here replaced by the Cretan goat as the lion's prey.
- 55 Evans 1906, 89, fig. 101 (Zapher Papoura Cemetery); Hood 1956, 85, and fig. 5 (3, 4), pl. 14 (a–d) (Ayios Ioannis). Hood points out that these were common subjects for sealstones at this time (c. 1450); but it is worth noting that the popularity of the subject corresponds with the dominance of a Mycenaean warrior aristocracy.
- 56 PM IV, 853.
- 57 Dickinson 1977, 49.
- 58 CMS I, no. 17.
- 59 Dated by Kantor (1947, pl. 24 (A)) to LH III on the grounds of its Egyptian context, but stylistically more likely to be LH IIb–IIa (cf. Hood 1978, 115, who dates it to 'soon after 1450').
- 60 It was also an attribute or visible manifestation of a great many gods and goddesses in the ancient world; but their particulars need not concern us as it would be spurious to attempt to identify any specific deity with the figures flanked by lions in Aegean iconography. See for example Keller 1963, 45f.; also Wreszinski 1932; Moscati 1963, 78. In Syrian and Hittite iconography kings and deities are frequently depicted standing on the back of a lion.
- 61 Vermeule 1975.
- 62 Chadwick 1976, 144.
- 63 Translation: Kramer & Jacobsen in N. K. Sandars, *Poems of Heaven and Hell from Ancient Mesopotamia* (Harmondsworth 1971) 33.
- 64 W. F. Edgerton & J. A. Wilson, *Historical Records of Ramesses III* (Chicago 1936) 54–5.
- 65 Ovid, *Metamorphoses* XI 510–13. Translation: M. M. Innes (Harmondsworth 1971).
- 66 PM III, 785.
- 67 Heinzl et al. 1977, 82–5.
- 68 Cf. the Megiddo ivory griffin plaque, Vermeule 1972, pl. 37 (D); and seals from Pylos and Menidi, CMS I, nos. 293, 389.
- 69 Frankfort 1936; Dessenne 1957; Bisi 1965; Delplace 1967.
- 70 Frankfort 1936, fig. 1 (Susa, 4th millennium), fig. 2 (Ur, Early Dynastic); Lange & Hirmer 1968, pl. 2, left (Predynastic palette, Egypt).
- 71 PM I, 709–13.
- 72 Frankfort 1936.
- 73 *Fresco Atlas*, pl. E, fig. 3 (h); pl. 4, fig. 16 (PM I, 549, fig. 400). N.-W. Fresco Heap, Knossos, MM IIIb–LM Ia.
- 74 Three griffin-like creatures are among the motifs of the MM II deposit of sealings from Phaistos (Levi 1957–8, 122, nos. 243–5, figs. 308–10 (= CMS II (5), nos. 317–19), dated by Levi to his phase I of the Old Palace which corresponds to Evans' MM Ib–IIa (ibid. 136), though Fiandra places the seal deposit in the 3rd phase dated to the beginning of MM IIb (Fiandra 1968, 385, note 2) and Kenna, on stylistic grounds, to MM II–III (Kenna 1968, 191). For further reference to the question of dating see CMS II (5), p. ix n. 3.
- 75 On Zakros' connections with the East see Platon 1971, 240–6.
- 76 Hogarth 1902; Weingarten 1983. The types include a female sphinx (Hogarth 1902, 83, fig. 19, no. 74, pl. 8). Another of the composites, bird head/wings/woman's torso and legs (ibid. 79, fig. 8, no. 20, pl. 6; cf. pl. 6, 21–8, and pl. 7, 43), also occurs on MBA Syrian seals (Frankfort 1936, 117–19, fig. 19). For a description of Frankfort's 'First Syrian Group' (c. 1800) to which this belongs see Frankfort 1939, 252–8.
- 77 Levi 1925–6, 117, fig. 117; 118, fig. 119.
- 78 Ibid. 94–7, 99.
- 79 Dessenne 1957, 203–4, nos. 1–8 = Hogarth 1902, nos. 54 and 52; Levi 1925–6, nos. 177–81, 183. To these we might add Hogarth no. 41 and possibly nos. 40 and 42 (pl. 7).
- 80 On the 'notched plume' or 'adder-mark' see PM I, 548ff. Evans assumed that it had a religious function, but it appears also as a textile design (Knossos miniature: *Fresco Atlas*, pl. E, fig. 3c; Phylakopi: Atkinson & Bosanquet 1904, 73, fig. 31).
- 81 Of fifty examples from Crete in Dessenne's inventory of 1957, only the one on the miniature fresco has this feature; of thirty-two Mycenaean examples, only four (Dessenne 1957, nos. A15 (Knossos), B7, 12 (Mycenae), 30, 31 (Delos); cf. PM I, 548, fig. 399b, thought by Evans to be another example. The publication of CMS brings the number of Mycenaean examples up considerably; only a few have notched plumes (e.g. CMS I, 223 (Vapheio)).
- 82 Zervos 1957, pl. 271; Atkinson & Bosanquet 1904, pl. 14 (2), pl. 21 (11), pl. 21 (9).
- 83 Thera IV, pl. 96a (lowest sherd). The lines in front of the beak may be the wing-feathers of a second griffin; compare the jar from Kea in Fig. 40. Cf. Atkinson & Bosanquet 1904, pl. 21 (9).
- 84 CMS V (II), no. 690; Thera V, 36, pl. 85. The dugs suggest the female Syrian sphinx but also occur on a griffin on a sealing from Ayia Triada (Levi 1925–6, 99, 117, fig. 116).
- 85 Thera VII, 33–4 (description); Dumas 1980, 295, fig. 4 (drawing). N. Marinatos 1984b, figs. 40, 44, 49 (reconstruction drawings). The scene is not yet published in photographs.
- 86 PM IV, 169, fig. 130 (Psychro Cave); Hood and de Jong 1952, 272–3 and fig. 16 (III 20) (Knossos); *Praktika* 1955, 294, pl. 110γ (Sitea); Kenna 1960, 154, pl. 20 (1938.1073) (Gemme Dubitandae); CMS V (II), no. 654 (Ialysos, Rhodes); CMS XIII, no. 38 (Rhodes, the miniature female figure stands on a pedestal). In these cases the female is flanked by two griffins; in others a single griffin attends: CMS I, no. 128 (Mycenae); CMS VIII, nos. 95, 146; CMS I, no. 223 (Vapheio). The figure in these is usually called male, but, with the exception of the last, the skirt suggests female.
- 87 Cummer and Schofield 1984, 111–12, no. 1318, pl. 79.
- 88 Karo 1930, pl. 26 (47).
- 89 Ibid. pl. 32 (274).

- 90 Ibid. pl. 73 and fig. 34 (417).
 91 Ibid. pls. 91, 92 and fig. 50 (747).
 92 Levi 1925–6, 177, fig. 219 (181); 178, fig. 221 (183).
 93 Betts 1967b, 37 (31). Lion and griffin are heraldically juxtaposed on another Knossos seal (AE 1907, pl. 8 (136) = Dessenne 1957, 205 (33)).
 94 On seals, see above, pp. 45–6 (lions), p. 51 n. 86 (griffins). Concerning the griffins in the Throne Room at Knossos, Helga Reusch suggested that the throne should be considered as the seat of the priestess or representative of the deity and the heraldic griffins thereby protective in a religious sense (Reusch 1958). At Pylos, a large griffin, almost certainly flanking the throne, was accompanied by a lion partner (Lang 1969, 20 C 6, pls. 53, 54, (125), 134, F; pp. 99–103, 110–11, 194–6). Cf. the lions and griffins of the frieze in Hall 46, two of which seem to have flanked a tree or column (ibid. 21–7 C 46 and 28–34 C 43, pls. 54–60, 117, 135, F, P; pp. 99–103, 111–18, 205–7, 208–11). Griffins attached to columns by cords also occur on a wall relief from Knossos (PM IV, fig. 355) and on sealstones (Nilsson 1950, 253, fig. 121 (Mycenae); CMS I, no. 171 (Mycenae), no. 196 (Midea)). Cf. lions flanking columns, above, n. 32. A griffin (with cord) accompanies a figure in priestly garb on a Vapheio seal (CMS I, no. 223). Cf. an ivory from Midea (Poursat 1977a, 64 (2)). Lions, too, keep the company of men (PM I, 505, fig. 363 (Knossos, Ayia Triada); CMS I, no. 133 (Mycenae), 280 (Rutsi), 512 (Crete); CMS X, nos. 135 (?), 160; CMS XII, no. 207).
 95 On a sealing from Zakros a woman stands on the left, a man carrying a griffin in the centre, and armour (associating warfare with the griffin-holding man) on the right (Levi 1925–6, 183, fig. 233). On a cylinder seal from Kasarma (LHI–II) a lion and griffin confront one another, while a female figure stands alongside the lion (CMS V (II), no. 584); on another from Ialysos (14th c.) a griffin and a lion flank a man, perhaps a warrior (CMS V (II), no. 657); and on another from Toumba tou Skourou on Cyprus a man is flanked by a lion and a griffin (AR 22 (1975–6) 40). On a cylinder seal from Hagia Pelagia, Crete, a man carries a griffin on his head, a woman rides another (PM IV, 497, fig. 436). The authenticity of this seal has been doubted by Biesantz (1954, 117, no. 4) and by Gill (1961) on the grounds that papyrus, shown here, rarely occurs on sealstones (but cf. Fig. 46). It does, however, occur on other media in association with griffins (e.g. The Thera Landscape painting, Knossos Throne Room, Mycenae ivory plaque (Hood 1978, 128, pl. 119)). Iconographic associations are arguably more important criteria in determining authenticity than known relationships of motifs to media.
 96 A griffin is yoked to a chariot bearing two females (interpreted as deities by Long) on a side of the Ayia Triada sarcophagus (Marinatos & Hirmer, col. pl. 30; Long 1974, pl. 11). On an LM II Cypro-Minoan cylinder seal from Astrakous, near Knossos, a complex scene includes pairs of crossed lions, lions flanking a figure, a griffin led on a cord, male and female figures, and a griffin drawing a chariot (Frankfort 1939, 304, fig. 107; PM IV, fig. 351). On a cylinder seal from Kasarma, lions draw a chariot; a spear in front draws attention to the fact that the man in the chariot is a warrior (CMS V (II), no. 585).
 97 CMS V (II), no. 675.
 98 Porada 1981, 21–3 (no. 6, Find no. 203). The group of seals to which this belongs is termed ‘Cypro-Aegean’ by I. Pini (Porada n. 62).
 99 Cf. fragments of a second plaque of identical composition: Poursat 1977a, pl. 12 (2); BCH 71–2 (1947–8) 178, pl. 30 (7–8).
 100 Wace, BSA 51 (1956), pl. 21b.
 101 Buchholz and Karageorgis (1973, 163, no. 1748) describe the Kouklia mirror handle as carved on both sides with a warrior fighting a lion, whereas Schäfer (1958, 83) catalogues it as: side 1: man against lion; side 2: lion against bull. Though seemingly odd subjects for mirror handles, the objects may have been used for the grooming of warriors prior to battle. (The Spartans were said by Herodotus to have combed their hair as a preparation for a manly death (Herodotus, *Histories* VII 207–9).)
 102 Poursat 1977a, pl. 16 (6).
 103 BCH 71–2 (1947–8) pls. 29, 30 (3–8); 31, 26 (1–3); 25 (warrior). Cf. Poursat 1977a, 65, 69, pls. 12 (1–4), 13 (1–5); and 52, pl. 14 (I) (warrior). In discussing the Artemision ivories Poursat (1973) concludes that Cyprus played an important role in the transmission of Near Eastern traditions to Mycenaean works.
 104 Poursat 1977a, 64 (no. 2) and 68 (no. 2). The Athens National Museum number (7359) is apparently the same for the two pieces.
 105 House of the Shields: A. J. B. Wace, BSA 49 (1954) 235–8; BSA 50 (1955) 180–4; BSA 51 (1956) 107–13. Faience warrior fragments: BSA 51 (1956) pl. 17.
 106 CMS I, no. 165.
 107 Kritseli-Providi 1982 (A–6), col. pl. Ba, pl. 2a.
 108 See in particular Goldman 1960, 327.
 109 Wilkinson 1975, 85–6, pls. 17 B and 18. The two pectorals came from the Tomb of Meret at Dashur, the one with griffins dating from the reign of Sesostrius III, the other from the reign of Ammenemes III. See also Smith 1965a, 112. On the Atef crown: Erman 1971, 61.
 110 Smith 1965a, 113.
 111 See for example Frankfort 1939, pl. 31 (a) and comments pp. 154 and 182–3.
 112 The Aegean characteristics of the griffin on this axe-blade were recognized by Evans (PM IV, 191) and Furumark (1950, 220). Helck suggests that the axe of Ahmose was an Aegean product made for the Egyptian pharaoh (1979, 58). That griffins were associated with the Aegean peoples by Egyptian artists is suggested by the griffin-rhyta carried by Keftiu visitors in the tribute scenes of Egyptian tombs. Vercoutter 1956, 314–15, pl. 38 (259–61); Kantor 1947, pl. 9 (S, T).
 113 A plaque from Byblos shows a lion and griffin jointly

- attacking a bull (Poursat 1977a, pl. 19 (3)). Ivories from Nimrud show combats between lion and bull; a lion and griffin; man and lion; man and griffin (Barnett 1957, 66f., 72f.; Åstrom 1967, 140 n. I). From Megiddo, two fragments depict an entanglement of lions, griffins and bull; and another piece shows a lion with a warrior (Poursat 1977a, pl. 18 (4); p. 70, no. 36 = Oriental Institute Museum, Chicago, A 22332).
- 114 Schäfer 1958. Cf. Åstrom 1967. See also Poursat 1973.
- 115 Hood 1978, 64; Immerwahr 1977, 182.
- 116 Head and body length: 1.3–1.6 m; shoulder height: c. 1 m; overall length of antlers up to 0.75 m. On the fallow deer see Walker *et al.* 1975, 1387.
- 117 Young roe deer are also spotted (though not the adults) but they lack the white under-belly of the fallow deer which is visible in the painting (Walker *et al.* 1975, 1404).
- 118 Ibid. One race does have a dark brown summer coat, but the depiction of a rare rather than a typical example of the species is unlikely.
- 119 Warren 1979a, 123; identified by M. R. Jarman.
- 120 Vickery 1936, 17, 82.
- 121 Coy 1977, 129 and 132. Coy suggests that the antler came from the mainland or nearby Euboea.
- 122 Gamble 1978, 746, 747, 752.
- 123 *Contra* Evans' assumption that fallow deer was strictly a Cretan animal and red deer was from the mainland (1929, 45–6; PM IV, 578–9). Though red deer is thought to have been common on the mainland, small quantities of faunal remains have also been recovered on Crete, at Tyliossos (Vickery 1936, 19, 82).
- 124 E.g. *Thera* IV, pl. 96b (two sherds with deer or equid (?) heads); CMS V (II), no. 644 (seal from Koukounara, near Pylos, with male fallow deer); CMS I, no. 13 (seal from Shaft-Grave-III, Mycenae, showing, in delightful misunderstanding of its gender, a buck suckling its young).
- 125 PM II, 355, fig. 201 (Stephani lithograph, frequently reproduced); Smith 1965b, fig. 110 right (Gillieron water-colour). A second animal of the same species is evident in the display in the Herakleion Museum (fragments of leg and body). For a description of Room 14 see Halbherr *et al.*, *Annuario* 55 (1977) 91–3.
- 126 Paribeni 1908, 71, fig. 22; Pernier & Banti 1947, fig. 21. Antler cores (of roe deer) were found in a cult context at Knossos, in association with the faience 'Snake Goddess' in the Temple Repositories (BSA 9 (1902–3) 41; PM I, 496).
- 127 Lang 1969. Inner Propylon: 104–5 and 191; fragments 1 C 2 and 2 C 2, pls. 45–6, 131, E. Rooms 20, 21, 23: 36–7, 105, 199–201; 3 C 20, pls. 46, 132. Court 63: 105–6, 214; 5 C 63, pls. 48, 131, C. N.-W. dump: 106, 220; 6 C nw, pls. 48, R. Room 17: 118, 119; 36 C 17, pls. 61–2, 136, G. Room 19: 105, 198; 4 C 19, pls. 45, E.
- 128 Ayia Triada, Room 14, included (besides the cat, bird and deer painting) a scene of a woman kneeling amongst plants (Rodenwaldt 1927, pl. 3; PM I 539, 605) and a scene of a woman seated beside an altar or sanctuary (Halbherr 1903, 55f., pl. 10; PM II, 732ff.; Banti *et al.* 1972, opp. p. 58 (col.)).
- 129 Lang 1969, 40–3, 205–7. Deer: *ibid.* 6 H 43, p. 68, pls. 12, 121, B.
- 130 Abramovitz (Coleman) 1970, 14, 84, 113, 171, 172, 197 (e.g. fragments F 121, F 79 and 85 joined). Abramovitz 1980, 61–2, 66–7 (Cat. 106–12), pl. 6 d. I am grateful to the late Professor J. L. Caskey for generously permitting me to study the Kea miniatures during a first visit to the island in 1975. The Kea wall paintings have been discussed by K. Abramovitz (1970, 1973, 1980), and are to be fully published by E. Davis and L. Morgan in a future volume of the excavation reports, *Keos* (P. von Zabern).
- 131 Rodenwaldt, *Tiryns* II, 96f., pls. 11–14.
- 132 Ibid. 132–3, no. 189, pl. 14 (4).
- 133 Ibid. 133, no. 190, col. pl. 11 (I).
- 134 Ibid. 140ff., col. pl. 15, figs. 60–2. For a suggested reconstruction of the painting see Smith 1965b, fig. 123. The bodies are yellow, blue, red and pink with spots rendered as crosses, a familiar design on animals of the pictorial style of pottery of LH IIIb: e.g. Furumark 1941a, 245, fig. 27 (4, 7, 9), and 247, fig. 28 (18), bulls. Cf. the deer in the Pylos Hunt Fresco; Lang 1969, pl. 12.
- 135 CMS I, no. 15.
- 136 Ventris & Chadwick 1973, 132, 195, 490 (Ub 1318). The ideogram has male antlers of indeterminate species.
- 137 See Ch. 1, n. 25. Colour photograph: TAWI, frontispiece colour plates, pl. K (lower photograph, upper right of centre).
- 138 Isaac 1962, 198–9; Zeuner 1963a, 229; *idem* 1963b, 14; Hood 1971a, 89.
- 139 See Isaac 1962; Zeuner 1963a, 202–3; *idem* 1963b (cf. Summary of the Symposium, 158–66); Walker *et al.* 1975, 1429; Clutton-Brock 1981, 63–4, 66–8. Cf. J. D. Evans 1963, 140.
- 140 Isaac 1962, 199–200; Zeuner 1963a, 211; *idem* 1963b, 14 and 159 (Summary). Cf. Walker *et al.* 1975, 1429. Vickery, in discussing both faunal remains and iconographic depictions of bulls in the Aegean, distinguishes between a long-horned and a short-horned variety, and further distinguishes a horn size suggesting a cross between the two breeds. Vickery 1936, esp. 62 and 71: *Bos primigenius* (i.e. *taurus*) and *Bos brachyceros*/*B. creticus* (i.e. *longifrons*, also cited for northern Greece). Cf. AE 1912, 231–2 (Keller on Tyliossos); Hazzidakis 1921, 76–7; Oulié 1926, 19. The distinction has also been noted for Mesopotamian representations of cattle: Zeuner 1963a, 217.
- 141 Jarman & Jarman 1968, 249, 251. There is no evidence for the wild animal on Crete, though it has been argued that wild aurochs existed in Greece in the Palaeolithic (Renfrew 1972, 269).
- 142 PM III, 177ff.; Vickery 1936, 31–2, 62–3; J. D. Evans 1963, 142; Zeuner 1963a, 229, 233; 1963b, 14.
- 143 Neolithic: Jarman & Jarman 1968, 241–2; C. Renfrew 1972, 270–1, 273, 279. Neolithic and Bronze Age: Vickery 1936, esp. 71–2; Gamble 1978, 1979, esp. table I.
- 144 Gamble 1978, 747, table II (9% cattle to 72% ovicaprids,

- compared to an average of 13.8% cattle, 67.7% ovicaprids, 18.3% pigs); on uses for cattle at Akrotiri see p. 750.
- 145 Walker *et al.* 1975, 1429: domesticated cattle (*B. taurus*), shoulder height 0.9 m–1.1 m.
- 146 A. J. Evans, *BSA* 8 (1901–2) 20 and 21, fig. 10; *PM* I, 310 and 309, fig. 288b.
- 147 A seal impression from Knossos shows a man milking a cow (*PM* IV, 564, fig. 534) but on seals the cow more often gives milk to its young. An MM I bowl from Palaikastro has a modelled scene of cattle and a herdsman (Buchholz & Karageorghis, 1213). A bull was associated with a chariot scene from the Lapidary's Workshop, Knossos (*Fresco Atlas*, pl. C, fig. 6; Alexiou 1964; Cameron 1967b, esp. 334, fig. 4). An EBA terracotta group from Vounous on Cyprus shows oxen as draught animals (Buchholz & Karageorghis, 1704). But scenes of bulls drawing ploughs, familiar from Egyptian wall paintings, are absent from the Aegean.
- 148 Xanthoudides 1924, pl. 2 and pl. 28 (no. 4126, Koumasa); pl. 27 (no. 5052, Porti). Branigan 1970a, 110 and pl. 11a; 1970b, 81 and fig. 18. On the tradition of bull-sports see A. Reichel 1909; Evans 1921; *PM* III, 203f.; J. D. Evans 1963; Ward 1968; Younger 1976.
- 149 Levi 1925–6, 120, 121, figs. 124–6, nos. 108–10.
- 150 Marinatos & Hirmer, pls. 106, 107 (above).
- 151 Taureador Fresco, Court of the Stone Spout: *Fresco Atlas*, pl. 9 (2 versions); *PM* III, 203f.; figs. 144–5. Magazine 13: *Fresco Atlas*, pl. 7, fig. 1; *PM* I, 528, fig. 385. N.-W. Treasury: *PM* II, 621, fig. 389. Queen's Megaron: *PM* III, 208–9, fig. 143; Bulle 1907, 128, fig. 38. Relief Frieze, Northern Entrance: *PM* III, 158f., fig. 116. Relief Frieze, area above the Loom Weight Basement: *PM* I, 375–6. Cf. crystal plaque from the Throne Room area: *PM* III, col. pl. 19, opposite p. 109. See also Kaiser 1976, 257–98, on stucco reliefs. Graham suggested that at Knossos the sports took place in the Central Court of the palace (1969, 73–83); *contra*: S. Hood, *AJA* 68 (1964) 309 (review of Graham, 1962 edn).
- 152 Tiryns: *Tiryns* II, 162–5, pl. 18. Mycenae: Rodenwaldt 1911, 230, pl. 9 (1); Lamb 1919–21, 192–3, pl. 7 (the Ramp House). Pylos: Lang 1969, 77, 36 H 105, pls. 24, 116, 124, C. Orchomenos: Bulle 1907, 79f., pl. 28 (8). Younger suggests that the LH III scene had been relegated to an artistic genre (1976, 135–6).
- 153 Hood 1978, 121–2, pl. 111.
- 154 E. N. Davis 1977; Marinatos & Hirmer, pls. 178–85.
- 155 E.g. *CMS* V (II), no. 580 (Kasarma); *CMS* I, no. 152 (Mycenae), bull-vaulting scene.
- 156 The acrobat's legs are at the top of the sealing. Cf. Betts 1967a, figs. 6a, 6b, 7a, and 2. For other glyptic scenes of bull-vaulting see, for example, *CMS* I, nos. 75, 82 (Mycenae); nos. 200, 314 (Asine); no. 370 (Pylos); no. 408 (Dimini); no. 517 (Crete); *PM* I, 686, fig. 504 (Zakros and Knossos); 694, fig. 514 (Temple Repositories).
- 157 E.g. *PM* IV, 564–5, figs. 533, 535–6.
- 158 E.g. Kenna 1960, 60, figs. 129–30 and pl. 12 = *PM* IV, 443, figs. 368a–b.
- 159 See for example: Nilsson 1950, 165ff. (horns of consecration), 229ff. (sacrificial bull). For an extreme view that the original motivation for domestication of *primigenius* was religious rather than economic see Isaac 1962.
- 160 *Thera* III, col. pl. A (2). Cf. *PM* II, 259–60, figs. 154–5. On bull's-head rhyta: *PM* II, 527ff.
- 161 Long 1974, fig. 52.
- 162 Furumark 1950, figs. 23–5 (Amenuser, Rekhmire, Menkheperreseneb), 22 (Senmut: vessels decorated with bulls' heads, on one with rosettes); Vercoutter 1956, pls. 40–1, 35 (no. 231, Senmut); Kantor 1947, pl. 9. Bull's head with rosette: cf. silver rhyton from Shaft Grave III, Mycenae; Karo 1930, pls. 99–121.
- 163 Rutkowski 1972, 170–1, 138, 141.
- 164 *Thera* III, 21.
- 165 E.g. *PM* I, 434, fig. 312c, seal from Argos, double-axe over a bull's head, disembodied skirts either side; *PM* II, 33, fig. 15 (MM II seal with votive woman in association with a bovine head and large-scale spear-head).
- 166 E.g. *CMS* V (I), no. 198 (Thebes?).
- 167 Sakellarakis 1968, pls. MII–ME; Sakellarakis 1970, 166–98, esp. fig. 8, 217–18, List B.
- 168 Long 1974, pl. 31.
- 169 Sakellarakis 1970, 215–17, list with bibliographic references.
- 170 Chadwick 1976, 95; Ventris & Chadwick, 489 (313 = Un 6).
- 171 Ventris & Chadwick, 211–12, 125 (83 = Ch. 902).
- 172 *Odyssey* III 4–6.
- 173 Apollonius Rhodius, *Argonautica* I 353–62, 402–48.
- 174 Bent 1965, 132.
- 175 Payne 1968, 374; Walker *et al.* 1975, 1474.
- 176 Hilzheimer 1936, 197.
- 177 Zeuner 1963a, 162 and 169; Walker *et al.* 1975, 1478; Clutton-Brock 1981, 53; cf. Payne 1968, 376–7.
- 178 Semple 1932, 309, 324. Cf. Pliny, *Natural History* VIII 199, on the 'Umbrian', a cross between mouflon and domestic sheep.
- 179 *Thera* VI, 58 n. 33.
- 180 Walker *et al.* 1975, 1476; Payne 1968, 378; Zeuner 1963a, 155.
- 181 The reconstructed profile of the piebald animal is inaccurately sheep-like in its convexity.
- 182 Payne 1968. Confusingly, *Capra hircus* is also the term used for domestic goats.
- 183 The white goat on the right (behind the piebald) has a black patch on the forehead in front of the ear; the reconstruction continues it a short distance in front, but it is more likely to be the beginning of a horn rising upward and backward. The piebald's horns are entirely reconstructed.
- 184 *PM* I, 510, fig. 366. Warren (1975, 96, caption for 97) calls the plaque 'a goat or an antelope'.
- 185 Warren 1969, p. 488c; Kaiser 1976, pl. 13a.
- 186 E.g. altar: *CMS* I, no. 119 (Mycenae), no. 292 (Pylos); heraldic: *CMS* I, no. 155 (Mycenae), no. 189 (Midea),

- nos. 266, 379 (Pylos); chariot: Kenna 1960, pl. 12 and pl. 23 (308) (Lyttos, Crete), cf. the goat-like animals on a side of the Ayia Triada sarcophagus.
- 187 Evans considered the goats to be wild and therefore part of a hunting scene (*PM* I, 310), but the horn length and shape are those of the domestic species. A fragment of an ox is taken by Evans to belong to a pastoral or agricultural scene and the goats should be related. Polinger Foster refers simply to 'goats, oxen and donkeys' (1979, 105). On further iconographic evidence for the domestication of goats see Vickery 1936, 72 n. 4.
- 188 *Thera* VI, pls. 80–1, col. pl. 11; Maffre 1972, fig. 23.
- 189 E.g. an EC silver pin from Amorgos (Sapouna-Sakellarakis, *Cycladic Collection*, col. pl. 23 (left)); a gold pin from Shaft Grave IV, Mycenae (Karo 1930, pl. 18 (no. 245)); one of the Phaistos Disk signs (*Prehistory & Proto-history*, 160, sign 30); seals from Lasithi (*PM* I, 684, fig. 503b; *PM* IV, 571, fig. 547), Vapheio and Mycenae (*CMS* I, nos. 257 and 113).
- 190 *PM* I, 273, fig. 202e; 515, fig. 373.
- 191 Vapheio: *CMS* I, 221 = *PM* IV, 571, fig. 545. Epidauros (Apollo Maleatas): *Ergon* 1975, 106, fig. 101.
- 192 Kenna 1960, 53, fig. 106.
- 193 Vickery 1936, lists p. 69 (sheep) and p. 70 (goats). For the Neolithic period: C. Renfrew 1972, 208, 270–1, 279; and at Knossos: Jarman & Jarman 1968, esp. 241, 256. At EM Fournou Korifi 90.3% of the animal bones were sheep and goat; M. R. Jarman, Appendix VI, 'The Fauna', in Warren 1972, 318–20. For an island economy comparable to that of Thera see Coy 1974 and 1977, on Kea.
- 194 Gamble 1978, esp. tables I and II, and p. 750, table VI.
- 195 Fouqué 1879, 122; Vickery 1936, 61, 72.
- 196 Chadwick 1976, 132. Ventris & Chadwick, 283 (Un 718).
- 197 On the definition of hair *versus* wool see Hodges 1976, 124; Forbes 1956, 4.
- 198 Semple 1932, 309. See also Clutton-Brock 1981, 26, on selective breeding.
- 199 Warren 1972, Appendix VI, 318–20 (bones); 262–3 (loom weights).
- 200 Dumas 1983, 117. Cf. below, p. 100 n. 63.
- 201 Lang 1966, 258.
- 202 Ventris & Chadwick, 199–201. Cf. Chadwick 1976, 130; Lang 1966, 253.
- 203 D series, Ventris & Chadwick, 197ff.
- 204 Killen 1964. (Cf. D. Young, *Kadmos* 4 (1965) 111–22; *Kadmos* 8 (1969) 39–42; J. Killen, *Kadmos* 7 (1968) 105–23; 8 (1969) 23–38, for commentaries on this article.)
- 205 Although 'the RAM ideogram can denote not only "wether", but also, when required, a group of both male and female animals, and has then the sense of "sheep"' (Killen 1964, 10); cf. *Eranos* 6 (1963) 77. Killen's interpretation opposes that of Ventris and Chadwick that the rams represent tribute. Chadwick 1976, 127–8, accepts Killen's view.
- 206 Killen 1964; Ventris & Chadwick, 322–3.
- 207 See, for example, Semple 1932, 322; Hammond 1976, 37.
- For a more detailed discussion of transhumance cf. Ch. 12, p. 158.
- 208 I am grateful to Dr Fraser for his observations. On the common dolphin see Walker *et al.* 1975, 1114; Fraser 1976, 33. On the Euphrosyne dolphin: Fraser 1976, 34. The Knossos dolphins: *PM* I, 542–4, fig. 394; *PM* III, 377–9, fig. 251. Oulić (1926, 89) considers these to be *Delphinus delphis*.
- 209 Atkinson & Bosanquet 1904, 123–5, pl. 22 (Edgar comments on the dolphin-like heads). Cf. Stebbins 1929, 47, who identifies them as dolphins. For other fish/dolphin composites see Sakellarakis 1974, figs. 7–10 (sealstones); Marinatos & Hirmer, pl. 123 (LM III alabastron from Kalyvia near Phaistos); *CMS* I, no. 259 (Vapheio), no. 409 (Skopelos, LH II ceramics); and the LM Ib rhyton from Psira in Fig. 17.
- 210 For early discussions of dolphins in Aegean art see Stebbins 1929, 19–51; Oulić 1926, 86f.
- 211 Levi 1976, col. pl. 79; text p. 503, fig. 775.
- 212 Seager 1916, pl. 14, pl. 9 (col.), cf. pl. 8. On the light-on-dark jar, the outlined bodies have ventral streaks as a double wavy line which, as in the Knossos fresco, terminate by surrounding the eye. On the dark-on-light jar the plain body is separated from the head by curved lines indicative of a fish's gill-cover; a globe separates body from tail. See Stebbins (1929, 6–7) on this peculiarity of some Minoan dolphins.
- 213 Hood 1971a, pl. 30; *PM* I, 675, fig. 495; *PM* IV, 500, fig. 441.
- 214 Cf. Furumark 1941a, 147. For the ringed eye and stylization of body pigmentation cf. LM I pottery sherds from Knossos and Phylakopi (Oulić 1926, no. 69 and nos. 70, 71 (= Atkinson & Bosanquet 1904, 121, fig. 93)).
- 215 Colour photograph: *Thera* V, pl. C.
- 216 *Thera* IV, pl. 82.
- 217 *Thera* II, pl. 11 (2); col. pl. C (7); *Thera* VI, pl. 81; *Thera* VI, pl. 80, col. pl. 11.
- 218 *AR* 25 (1978–9) 34, fig. 44.
- 219 *Thera* IV, pl. 67b (from Δ 1); *Thera* V, pls. 49 and 54b (from Δ 9). Marinatos comments 'Another similar vase was found nearby' (V, 26).
- 220 *Praktika* 1979, pl. 159y; *Ergon* 1979, pl. 70; *Ergon* 1980, pl. 89; *AR* 28 (1981–2) 47, fig. 102.
- 221 Karo 1930, pl. 141 (828), applied faience.
- 222 Sakellarakis 1971, 62, col. pl. 25 (below); Blegen 1937, pl. 421.
- 223 Hood 1978, 71.
- 224 Banti 1941–3, 28–40, esp. 31–3, fig. 18; Hirsch 1977, 10–11, pl. I (figs. 1–3). Evans assigned the Knossos painting to MM III, comparing it with the Phylakopi flying fish. However, parts were found above LM I slabs and the latest associated sherds are LM II (*PM* III, 378; *PM* I, 543 n. 2), while the Phylakopi painting itself is now thought to be LM I (*AR* 22 (1975–6) 26; Renfrew and Wagstaff 1982, 38–9). The Ayia Triada painting has sometimes been attributed to LM III, the latest period of the shrine in which it was found (Hirsch 1980, 459–61, esp. n. 53; and

- references in Hirsch 1977, 11 n. 22, 46, and Hood 1978, 249 n. 134). However, Hood points out that the floor was not the latest one of the shrine but is likely to have been destroyed with the palace in LM Ib (1978, 71).
- 225 Abramovitz (Coleman) 1970, 53, 160–1; 1973, 293–6, fig. 2, pl. 56b. A terracotta dolphin was also found on the site, in the temple (*Hesperia* 31 (1962) p. 101 e).
- 226 Tiryns: Rodenwaldt, *Tiryns* II, 223–32, figs. 80 and 81, pls. 19 and 21 (3); Hirsch 1977, pls. 10, 12, 13. Pylos: Blegen & Rawson 1966, 212, 214; Lang 1969, 25; Hirsch 1977, pl. 9; Hood 1978, 82, fig. 66.
- 227 Abramovitz 1980, 62, 66, Cat. 97 (F.123), pl. 6c.
- 228 Stebbins 1929, 18, 19–20, 97.
- 229 Keller 1963, 408.
- 230 See Stebbins 1929, esp. chs. 6 and 7; F. E. Zeuner, *BICS* 10 (1963) 97–103; Keller 1963, 408; Radcliffe 1921, 90–100.
- 231 *PM* IV, 414, fig. 343b.
- 232 S. Benton, 'Cattle egrets and bustards in Greek art', *JHS* 81 (1961), 44–55.
- 233 The Ayia Triada and Knossos tails are unlikely actually to be those of pheasant, a widely-introduced bird, originally native to Eurasia.
- 234 *Thera* IV, pl. 96a.
- 235 Waterfowl: *Thera* V, col. pl. A = 58a–b (polychrome jug, House of the Ladies); *Thera* VII, pl. 47d (sherd, Xesté 3); Maffre 1972, fig. 22 (oinochos 79, French Collection) – waterfowl hybridized with swallow's tail. Swallow: *Thera* II, col. pl. A = fig. 29 (polychrome ewer, A 2); col. pl. C (8) = pl. 17 (2) (kymbe, A 1); *Thera* VI, pl. 74a (jug, West House?); *Thera* VII, pl. 47c (ethmopyxis, Xesté 3).
- 236 E.g. Kenna 1960, 61, fig. 131, pls. 12 and 23, no. 297 (Ashmolean); *PM* III, 116, fig. 66b.
- 237 *Thera* VII, col. pl. L. Cf. Heinzel *et al.* 1977, 52–3. The inaccuracies are the white ring occurring midway along the green neck rather than dividing the green from the brown breast; the red rather than yellow bill; and the distribution of brown pigmentation on the under-belly (which should be white) and wing (where it should occur on the flight feathers rather than on the shoulder coverts). Descriptions of species are based on Heinzel *et al.* 1977.
- 238 A number of species of waterfowl were represented by Egyptian painters. The Egyptian or Nile goose, *Alopochen aegyptiacus* (as the decoy bird on the boat in Pl. 187), the white-fronted goose, *Anser albifrons*, and greylag goose, *Anser anser*, are among the more common.
- 239 *Tiryns* II, pl. 1 (5). Rodenwaldt identifies the bird as the Egyptian goose (*ibid.* 19).
- 240 Higgins 1980, pl. 6B. For a more naturalistic representation of the short, rounded wing coverts see *PM* III, 117, fig. 67, clay sealing from Knossos with waterfowl and papyrus.
- 241 Confusingly, the brown neck-ring of this bird (in reality a goose-like duck) is the only obvious feature omitted by Egyptian artists, cf. Pl. 187.
- 242 E.g. Vickery 1936; Hutchinson 1968, 240; then referred to as *Chenalopex*.
- 243 Heinzel *et al.* 1977, 46–7.
- 244 Zeuner 1963a, 466, 468. Domestication may have begun in the natural breeding grounds of S.-E. Europe (Zeuner). In Egypt, the first representations of the force-feeding of captured geese occurs in the 5th dynasty.
- 245 Keramopoulos, *Deltion* 4 (1918) 99–100, suggested that the eggs were eaten; but cf. Vickery 1936, 67.
- 246 *Odyssey* XIX 536–7.
- 247 Pollard 1977, 86 and 104, 106, 107.
- 248 Bent 1965, 127–8.
- 249 Cf. *PM* III, 116–17, figs. 66b and 67.
- 250 E.g. Marinatos & Hirmer, pls. 122–3, 126; Buchholz & Karageorghis, 1041–2.
- 251 Alexiou 1955, 318, fig. 2.
- 252 *CMS* V (II), no. 582.
- 253 Thought by the excavators to belong to a bath (Atkinson & Bosanquet 1904, 141).
- 254 Cf. *CMS* IX, no. 154, for the motif of Mistress of Animals with waterfowl.
- 255 Mylonas 1973, pls. 183–5.
- 256 Heinzel *et al.* 1977, 170–1.
- 257 Cameron 1968. Not rollers (*Coracias garrulus*) as Evans thought (*PM* II, 454).
- 258 Cameron 1968, fig. 3 (tail bar), col. pl. A (5) (cere).
- 259 *Ibid.* 5 (21), col. pl. A (5), and no. 8, col. pl. A (4).
- 260 Lang 1969, col. pls. J and R. Noted by Cameron 1968, 7.
- 261 Cameron 1968, 5; nos. 9, 21, 22, pls. 1, 5 and fig. 1f, col. pls. A (5) and B (I).
- 262 Abramovitz (Coleman) 1973, 286–93. The only minor differences noted are the blue bills and red feet, both of which are black at Knossos.
- 263 Pylos: Lang 1969, 9 F nws, pls. 83, 117, col. pls. J, R. Thebes: *Deltion* 26A' (1971) pl. 23B.
- 264 Lang 1969, 43 H 6, pls. 27, 125, 126, col. pl. A. For an illustration of the restoration in colour: *Prehistory and Protohistory*, 337.
- 265 For the stylistic and chronological history of birds, including doves, see Oulié 1926, 55–79.
- 266 Hood 1978, 212, fig. 210; *PM* I, 117, fig. 86.
- 267 Warren 1969, 63, HM 1514, P 333. Pernier 1935, 235–8, fig. 113.
- 268 *PM* I, 275, fig. 204 (g, n).
- 269 *Scripta Minoa* I, 233, fig. 103 (table XIV), no. 79. Cf. the different dove sign on the Phaistos Disk (*ibid.* 276, no. 32).
- 270 E. Andreou, *AAA* 7 (1974) 416; J. L. Davis 1976, 81–3. Cf. Mylonas 1969 and 1970a.
- 271 *AR* 8 (1960–1) 27, fig. 30a–b.
- 272 E.g. Oulié 1926, 71, no. 46a; Furumark 1941a, 253, fig. 30, motive 7 (i–j, m: LM IIIa).
- 273 Sakellarakis 1971, 62, col. pl. 25 (above); Blegen 1937, pl. 458.
- 274 Nilsson 1950, 330–40. Though birds in religious contexts are frequently identified as doves, as Nilsson warned the species is usually indefinable.
- 275 Birds in domestic sanctuaries: Loom Weight Basement, Knossos – perched on columns (*PM* I, 220, fig. 166);

- 78 *Thera* II, 22.
 79 *Thera* III, 18.
 80 *Thera* III, 48–9.
 81 *Thera* V, illustration of mortise holes, pl. 51a & b, and pp. 26–7.
 82 J. W. Shaw 1973, 181.
 83 On the structural uses of wood in Minoan architecture see J. W. Shaw 1973, 139–57.
 84 *Thera* VII, 13; *Thera* VI, 23.
 85 *Thera* I, 37–9; *Thera* II, 17; *Thera* III, 38; *Thera* VI, 14; *Thera* VI, 21–2. Doumas 1974b, 201/214.
 86 E.g. *Thera* II, pl. 12 (1); *Thera* VI, pls. 16–17 – reconstructed.
 87 See, for example, *Thera* VI, pls. 14–17.
 88 Knossos miniature frescoes, Mycenae Megaron frieze, Orchomenos, Pylos. References above, nn. 1, 6, 10, 73–5.
 89 J. W. Shaw 1973, 138, 157; cf. 94.
 90 Ibid. 150–1, 172–3.
 91 *Thera* IV, 12, pl. 9b (caption: ‘n-w corner’, but cf. p. 12: ‘n-e’).
 92 *Thera* II, 33; pl. 33 (2).
 93 *Thera* I, fig. 51.
 94 J. W. Shaw 1973, 135–6 nn. 1–6, esp. 4; Graham 1969, 145–6.
 95 *Thera* VI, 21–2. Cf. Doumas 1974b, 201/214.
 96 *Thera* VI, 23.
 97 *Thera* III, 10. Marinatos comments: ‘According to the prints of the barks, olive-wood was employed in most cases (possibly oleaster).’ The latter is less likely, for oleaster (*Elaeagnus angustifolia*), although planted in the Mediterranean regions for ornament and for its edible berries and now widely naturalized, is native to Asia (Polunin 1977, 143; Vedel 1978, 82). Cf. *Thera* IV, 31: prints of ‘perhaps olive wood or wild pear’.
 98 Cf. sealing from Ayia Triada: Nilsson 1950, 268, fig. 134; sealing from Zakros showing entrance flanked by lions: Hogarth 1902, 87, fig. 28; gold ring from Knossos: Kenna 1960, 75, fig. 155.
 99 Graham 1969, 171; cf. 173 on double doors.
 100 Lembesi 1976, 23, figs. 9–10, pl. 15b, fig. 11.
 101 Graham 1969, 171–2; J. W. Shaw 1973, 138.
 102 *Thera* I, 38.
 103 J. W. Shaw 1973, 167.
 104 Ibid. 151.
 105 *Thera* I, 45, and figs. 67–8.
 106 *Thera* V, 18.
 107 Height of doorways of the South House, Residential Quarter at Ayia Triada, Palace and Royal Villa at Knossos: 1.60 m, 1.85 m, 2 m. Average width: from 0.60 m to 0.90–1.20 m (Graham 1969, 172).
 108 Hood described the larger rectangle as a doorway (1971, 75, pl. 23; cf. AR (1957) 22) but comparison with the more recently published carved stone house façade from Cyprus (Pl. 113) shows it to be a window with transoms.
 109 Graham 1969, 166 n. 9, figs. 48, 58.
 110 *Thera* IV, 26; *Thera* III, 48.
 111 *Thera* III, 33. Cf. traces of a wooden lintel and a shallow hole on the jamb where the wooden frame was fitted on a window in A 1: *Thera* III, 9–10; print of a wooden beam on the sill of a window in A 2: *Thera* III, 11, pl. 8 (1); traces of upright frame beams on the wall: *Thera* II, 22; traces of wood belonging to the windows of Room 5 of the West House: *Thera* VI, 20.
 112 *Thera* III, 18, window in Δ 5/Xesté 1.
 113 J. W. Shaw 1973, 175.
 114 *Thera* V, 18; cf. pls. 22 (east) and 23 (west).
 115 *Thera* III, 18; *Thera* V, 17; *Thera* VI, 12.
 116 *Thera* III, 9.
 117 *Thera* III, 9–11.
 118 *Thera* VI, 19 and pl. 28.
 119 Doumas 1974b, 202/215; reconstruction drawing: 203, fig. 2.
 120 *Thera* VI, 20.
 121 *Thera* V, 26; *Thera* VI, 15.
 122 PM I, 355.
 123 J. W. Shaw 1973, 179–81.
 124 Cf. Lembesi 1976, fig. 2.
 125 *Prehistory & Protohistory*, col. pl. p. 149.
 126 Lawrence 1973, 27. On glass substitutes in general (horn, oiled cloth, parchment etc.) see Clifton-Taylor 1972, 391.
 127 *Thera* VI, 23.
 128 *Thera* III, 33.
 129 *Thera* III, 18, pl. 19 (1).
 130 *Thera* II, 22, pl. 20 (2). At the time, these were interpreted as being for shutters.
 131 *Thera* V, 26–7, pl. 51 (a).
 132 Lembesi 1976, 15, cf. 27–8.
 133 I. B. Holland, ‘Primitive Aegean roofs’, *AJA* 24 (1920) 322–41; E. B. Smith, ‘The megaron and its roofs’, *AJA* 46 (1942) 99–118; W. B. Dinsmoor, ‘Notes on megaron roofs’, *AJA* 46 (1942) 370–2. But cf. C. W. Blegen, ‘The roof of the Mycenaean megaron’, *AJA* 49 (1945) 35–44, who argues against Smith and Dinsmoor.
 134 F. Zappeiropoulou, ‘A prehistoric house model from Melos’, *AAA* 2 (1969) 406–8.
 135 Abramovitz (Coleman) 1970, 189–91; Abramovitz 1980, 60, 63 (Cat. nos. 35–8, 40, 43, 44, 48), pls. 3 a–d. Reference to Hittite clay models (16th and 15th c.) with crenellations (1980, n. 16): E. Porada, ‘Battlements in the military architecture and in the symbolism of the Ancient Near East’, in *Essays in the History of Architecture Presented to Rudolf Wittkower* (London 1967) 1–12. Cf. also MacQueen 1975, pl. 26, ‘Hittite sherd depicting fortifications’; Pritchard 1969, pl. 329, fortress of ‘the town of Canaan’, relief scene from Karnak, Seti I (late 14th c.).
 136 J. W. Shaw 1973, 221–2; Lawrence 1973, 66.
 137 J. W. Shaw 1977.
 138 Shaw suggests marsh grass or seaweed (ibid.). Cf. J. W. Shaw 1973, 222, on the use of seaweed as waterproofing material in modern Cretan roofs and possibly in a house excavated at Palaikastro.
 139 Cf. Graham 1979, 64.
 140 Abramovitz 1980, 60–1, 64 (Cat. 55–7), pl. 3e.

- 141 Rodenwaldt 1921, pl. 2, frag. 8; Lamb 1921–3, pl. 42; Vermeule 1972, pl. 31 (A).
- 142 Rodenwaldt 1911, pl. 19 (col.), 222ff.; Lamb 1919–21, 191ff.; *PM I*, 444, fig. 320; Marinatos & Hirmer, col. pl. 43 (above).
- 143 Lembesi 1976, 33, pl. 13a.
- 144 Vermeule 1965, esp. pls. 25 (b), 26 (a): beam-ends; Th. Spyropoulos, *AAA* 3 (1970) 184–97; R. Lorandou-Papantoniou, *AAA* 6 (1973) 169–76. Also reports in *Ergon* from 1969 onwards. Cf. the Mycenaean ‘window crater’ from Cyprus; V. Karageorghis, *JHS* 77 (1957) 269–71.
- 145 Barnett 1957, 145–51, and pl. 4.
- 146 Atkinson & Bosanquet 1904, 193, fig. 162; *CMS I*, no. 410.
- 147 On horns of consecration see Nilsson 1950, 165–91 (the physical remains are cited on 165–7); also *PM II*, 160, on the South Entrance at Knossos. On representations of cult horns see Rutkowski 1981, 75–90.
- 148 Gla: *Ergon* (1960) 47–8, fig. 58. Pylos: Blegen & Rawson 1966, 328–9.
- 149 *Thera* IV, 40.
- 150 *Thera* VII, 21.
- 151 Ayia Irini: J. L. Caskey, *Hesperia* 40 (1971) 377 (gateway), 384–6 (temple, with references to earlier publications) and figs. 2, 3 (plans). Phylakopi: Renfrew 1978b; 1985, esp. 27, Fig. 2.1. Mycenae: Taylor 1969; Mylonas 1972.
- 152 Shrine of the Double Axes: *PM II*, 335ff., fig. 189; Nilsson 1950, 78–80, fig. 13. Loom Weight Basement: *PM I*, 221, fig. 166; Nilsson 1950, 86–8, fig. 17. Ayia Triada: Nilsson 1950, 167.
- 153 Warren 1969, 85, P 476. Cf. Smith 1965b, fig. 93, drawing, in which the fragment is joined to another showing a procession of men walking towards the left. Alexiou (*AAA* 2 (1969) 84–8) argues against this interpretation.
- 154 C. Davaras, *Hagios Nikolaos Museum, Athens* (no date) pl. 31; Davaras 1976, 274.
- 155 Cf. *CMS I*, nos. 86, 108 (gold rings from Mycenae), no. 191 (gold ring, Midea), no. 410 (ivory ring, Phylakopi).
- 156 As suggested by Rutkowski 1978, 661–2. On town shrines see Hood 1977.
- 157 N. Marinatos 1984b, 74–5, fig. 53 (reconstruction drawing).
- 158 Ayia Irini (LM I): J. Caskey, *Deltion* 17B' (1961–2) 275; *Deltion* 22B'2 (1967) 470. Pyrgos (MM): G. Cadogan 1977–8, 74.
- 159 *Thera* VI, 43.
- 160 As in the Islamic fortified storage buildings of parts of North Africa (*Islamic Architecture in Libya*, exhibition catalogue (London 1976) 42 (Kabao)).
- 161 Cf. the many Palestinian limestone caves in the Beit Jibrin region (ranging in date from 3rd c. B.C. to early Islamic times) used for burials, for worship (with small niches in the walls, interpreted as columbaria connected with cult), for industry (the production of lime for building material), agriculture (production of oil and wine), and irrigation

(tunnels and canals hewn into the rock). E. Oren, ‘The caves of the Palestinian’, *Archaeology* 18 (1965) 218–24. I am grateful to Mr Ian Wilson for drawing my attention to this article.

- 162 *Thera* VII, 16; cf. *Thera* VI, 18.
- 163 Ayia Irini: J. L. Caskey, *Hesperia* 40 (1971) 363ff.; J. Davis 1977. Phylakopi: Atkinson & Bosanquet 1904, 30ff.; *AR* 22 (1975–6) 26.
- 164 See in particular Scoufopoulos 1971; Iakovides 1977.

5 The location of the scenes

- 1 *Thera* VI, 38–60, esp. 53–6.
- 2 Page 1976; Stucchi 1976. See also Kehnscherper 1980, 627–30. An Aegean location is preferred by other scholars, notably Benzi 1977; Gesell 1980; Warren 1979a.
- 3 Herodotus, *Histories* IV 168–99.
- 4 *Thera* VI, 55–6; Marinatos, *AAA* 2 (1969) 374; 1973a, 200.
- 5 Marinatos: *Thera* VI, 56; 1973, 200. Knapp (1981, 251) comments of Stucchi that his ‘close familiarity with the topography and (Graeco-Roman) archaeology of Libya is brought to bear on the possibilities of Minoan settlement in the Cyrenaica’.
- 6 Evans first put forward the theory (1925 and *PM II*, 22f.), but the similarities of culture he noted – for example in tomb construction – have since generally been opposed (see for example Knapp 1981, 264).
- 7 See Kemp and Merrillees 1980, 268f., on this issue.
- 8 Stucchi 1967.
- 9 Boardman 1968.
- 10 See J. Boardman, *AR* 12 (1965–6) 25, fig. 3; M. A. V. Gill, *Kadmos* (1966) fig. 5, 11 ff. The lack of evidence for Aegean Bronze Age archaeological remains in Libya, or for close contacts between the two regions, is fully discussed by Knapp 1981, with references to recent archaeological surveys in Libya.
- 11 *Thera* VI, 55.
- 12 For a recent discussion of the geography and settlement history of the Cyrenaica area see Knapp 1981, 252ff.
- 13 Bates 1914, 91–2.
- 14 *Ibid.* 3.
- 15 *Thera* VI, 37–8.
- 16 E.g. Pritchard 1969, pls. 33 and 51: Hittite; pls. 45–7, 49: Syrian children in hostage; pl. 326: Shasu-Bedouin; pl. 77: hairdressing scene of the Princess Kawit, Egyptian Middle Kingdom. Lloyd 1961, pl. 129: a Nubian dancer, tomb of Horemheb. The young Egyptian god Horus, when shown in his human form, always wears a sidelock signifying his youth; the same usage was extended to the young princes and princesses of the royal household during the New Kingdom (Frankfort 1948, 71), cf. the children of nobles in Pls. 187–8.
- 17 E.g. Pritchard 1969, pl. 5, relief from the tomb of Horemheb, Memphis; cf. pls. 7–8. This style was apparently associated with the Rebu but also applied to

other Libyans by Egyptian artists. The various tribes actually had many local styles of hairlock (Bates 1914, 133–7).

- 18 *Thera* VI, 45.
- 19 Stucchi 1976, 31; Page 1976, 146 n. 3.
- 20 Bates 1914, 130–1, fig. 37.
- 21 Karo 1930, pl. 20 (61).
- 22 *Thera* VI, 44–5. Oric Bates points out that although the Egyptians practised circumcision, their enemies the Libyans did not (1914, 140). Egyptian circumcision operation: Pritchard 1969, pl. 629.
- 23 *Thera* VI, 54, and pls. 106–7. Cf. Page 1976, 141, 143. The ‘negroid Libyans’ from the South are very different from the Northerners with whom Marinatos otherwise attempts to relate the Therans. They, on the contrary, are characterized by a ‘nose slightly aquiline or straight’ (Bates 1914, 39) such as we see in Egyptian representations of Libyans. Once again, the feature used to suggest Libyan connections is actually more at home in the Aegean; the ‘up-turned’ nose is frequently seen in Minoan–Mycenaean art, e.g. La Parisienne.
- 24 *Thera* VI, 45.
- 25 Herodotus, *Histories* IV 175. The Loeb translates: ‘bucklers made of ostrich skins’.
- 26 *Thera* VI, 47.
- 27 *Ibid.* 46, pl. 98.
- 28 Stucchi 1976, 32 and n. 102.
- 29 E.g. Pritchard 1969, pls. 1 and 7.
- 30 Marinatos, *AAA* 2 (1969) 374–5.
- 31 *Thera* VI, 55.
- 32 Stucchi 1976, 29.
- 33 Bates 1914, 116 and 130, figs. 35–6.
- 34 *Thera* VI, 44 and 59, n. 33.
- 35 *Thera* VI, 45.
- 36 An idea which has been implied by other writers and explicitly stated by Page (1976, 144) and Dumas (1983, 55).
- 37 As, for example, Christiana island, 18 km south-west of Cape Akrotiri.

6 Clothing and hair

- 1 On women’s clothing in the Thera paintings see Televandou 1982.
- 2 The men in white robes bear offerings: Abramovitz (Coleman) 1970, 167–8; Abramovitz 1980, 59, 64–5 (Cat. 66–82), pl. 4c.
- 3 Knossos: *PM* II, 723, fig. 450(A), suppl. pl. 25. Ayia Triada: Paribeni 1908, pls. 21, 23. Pylos: Lang 1969, 40, 7–14 H 5, pls. 6–11, 119, 120. The garments have sleeves and are patterned, but also have vertical lines and horizontal hem-bands.
- 4 Palanquin: *PM* II, 770–3, figs. 502–3; *PM* IV, 398–9, fig. 332; *Fresco Atlas*, pl. C, figs. 1, 3. Camp stool: *PM* IV, 381–96; *Fresco Atlas*, pls. 5 (figs. 3–5), 6 (figs. 1–7) and 7 (fig. 3). Cameron’s addition of a new fragment (1964) showed the garment of La Parisienne to be a loose robe.

- 5 Lang 1969, 44 H 6, pls. 28, 126, A (125). See also the woman in a fringed garment from the Citadel House Shrine at Mycenae (Taylor 1969, 95, fig. 2, central figure).
- 6 Cf. Crowfoot 1955, 442, and Forbes 1956, 221, fig. 34, on types of oval mantles.
- 7 Ventris & Chadwick, 314ff. ‘Double cloaks’: Knossos L471, L474.
- 8 Evans (*PM* I, 430), Persson (1942b, 92–3) and Picard (1948, 194–5) considered this to be of religious significance, though Nilsson (1950, 162–4) doubted that it was more than ornamental. See now Rutkowski 1981, 97–100, who points to possible magical properties.
- 9 Bronze pins were found in Δ 16 at Akrotiri (*Thera* V, 33 and pl. 78a).
- 10 E.g. Strommenger & Hirmer 1964, pls. 20–1, 128, 157; Frankfort 1939, 143 (text) and fig. 37. Cf. Sapouna-Sakellariaki 1971, pl. 42B, figure in priestly attire (side and back view), from Mari. See also Lutz 1923.
- 11 E.g. *CMS* I, nos. 223, 225 (Vapheio); *PM* IV, 413, fig. 342 (Knossos). Regarding sealstones, the impression is taken to be the ‘correct’ way round, regarding rings, the ring itself.
- 12 The men in the procession move in both directions and Abramovitz (1980, 58) comments that the garment is ‘draped over the shoulder away from the viewer regardless of whether it is the left or right . . . probably . . . to clarify the representation’.
- 13 Nilsson 1950, 157, fig. 64; *PM* I, 434–5, fig. 312. Cf. Hogarth 1902, 78, fig. 5 (no. 6) and pl. 6, where, however, the feature is not as clear.
- 14 Abrahams 1908, 17, 24–7; Lorimer 1950, 370–5; Wace & Stubbings 1962, 499–500; Marinatos 1967, A7–A11. The χιτών (chiton) tunic has been compared by Lorimer (p. 372) and others to the male garment in Mycenaean wall paintings.
- 15 Ventris & Chadwick, 313.
- 16 Lorimer (1950, 372–3) points to one of its epithets, οὔλη, meaning ‘with a curly nap’.
- 17 Hammond 1976, 40.
- 18 See esp. Sapouna-Sakellariaki 1971, and on clothing in the Thera miniatures 1981, 492–3; also Marinatos 1967, A 21–5.
- 19 *PM* II, 768, fig. 500.
- 20 *PM* II, 754, fig. 488. See also *PM* IV, 564, fig. 535; 569, fig. 543 (man tying a bull on seals, one from Kastri and one of unknown provenance).
- 21 Marinatos & Hirmer, pl. 102.
- 22 Mycenaean examples: Figs. 32–4; Pl. 148; *CMS* I, nos. 12, 224; Hood 1978, 226, fig. 229. Sakellariou 1974, 5, fig. 1a (silver vessel). Cretan examples: Pl. 150 (a Mycenaean?); *PM* II, 106, fig. 59; Hogarth 1902, 80, fig. 12, no. 34, and pl. 7, nos. 34 and 36 (Zakros sealings); Sapouna-Sakellariaki 1971, 77, fig. 14, nos. 170, 171, 173, 174 (from seals); The Captain of the Blacks: *PM* II, pl. 13. Kea fragment F140: Abramovitz 1980, 64 (Cat. 62), pl. 4a.
- 23 *Scripta Minoa* I, 276, fig. 126 (table XXIV).

- 24 PM II, 719ff., figs. 450, 452, suppl. pl. 27. Cf. the Egyptian garment of, for example, Pl. 187 and the representations of envoys, including Keftiu, in the wall paintings of, in particular, the tomb of Rekhmire: Vercoutter 1956, 256–85, pls. 19–26 (and remarks by Hood 1971a, 95–6). Cf. also Sapouna-Sakellarakis 1971, 71, fig. 13, no. 166 (Knossos), with hem-bands as well as tassel. For a plain Mycenaean kilt see a fresco fragment from Orchomenos: AAA 7 (1974) 3, col. pl. 2 (6), though the legs are not preserved so the length of the kilt is unknown.
- 25 Knossos: PM III, col. pl. 18, opp. p. 67; *Fresco Atlas*, pl. 4 (fig. 3); Sapouna-Sakellarakis 1971, pl. 36. Tyllissos; Hazzidakis 1921, pl. 8; M. C. Shaw 1972, figs. 2–4, 13; Sapouna-Sakellarakis 1971, pl. 37. Pylos: 1969, 77, 36 H 105, pls. 24, 116, 124, C.
- 26 Warren 1969, 85, P 476; Smith 1965b, fig. 93.
- 27 Cf. CMS I, no. 219 (ring from Vapheio).
- 28 *Fresco Atlas*, p. 20, pl. C, fig. 4.
- 29 PM III, 127, fig. 81.
- 30 Warren 1979a, 124.
- 31 Paribeni (1908) first demonstrated that the material represented is hide.
- 32 PM IV, 169, fig. 132; 170, fig. 133a (Knossos).
- 33 Abramovitz (Coleman) 1970, 170; Abramovitz 1980, 58, 64 (Cat. 63), 68, pl. 4a.
- 34 E.g. from Knossos: the miniature frescoes, *Fresco Atlas*, pl. B, fig. 1a and pls. 11, 11a; the dancing woman, *Fresco Atlas*, pl. F, fig. 2 and pl. 7, fig. 2.
- 35 Thera VII, col. pl. B.
- 36 Thera III, 60, fig. 43. Dr E. French (personal communication) considers these to be of Cycladic derivation, unrelated to the mainland naturalistic type.
- 37 See French 1971 for the typology (109–12 on the 'Naturalistic' form). The tradition of stripes was continued on dresses worn by some of the mourning women on the Tanagra larnakes (Vermeule 1965, pl. 25b) and recurs on women in chariots on a Mycenaean amphora from Pyla-Verghi, Cyprus (Vermeule and Karageorghis 1982, 196, III.13).
- 38 Forbes 1956, 58–62; Lucas 1962, 166; Lutz 1923, 39; Hodges 1976, 127.
- 39 Grieve 1978, 317–19.
- 40 Pliny, *Natural History* XIX 6–7.
- 41 Lutz 1923, esp. 18–19, 62; Forbes 1956, 27, 33–4; C. Renfrew 1972, 351.
- 42 Newberry 1893, pls. 11, 29; 1894a, pls. 4, 13; 1894b, pl. 26. Davies 1913, pl. 37 (Tomb of Daga).
- 43 Hopf 1962, 4.
- 44 Flax escapes cultivation easily and is frequently found in semi-wild conditions (Grieve 1978, 317). Even if cultivated, the plant need not have been used for linen. The stems with the fibres from which linen is made ripen earlier than the seeds used for oil, hence different crops are usually necessary for the two products. The Greeks cultivated flax for linseed oil yet still imported their flax for linen (Patterson 1956, 195).
- 45 Seager 1912, 93; Hood 1971a, 94.
- 46 C. Renfrew 1972, 351. Renfrew implies that it could have been fine wool.
- 47 PM IV, 866 and fig. 852.
- 48 Snodgrass 1967, 18; AM 1887, 21–3, fig. 4.
- 49 Ventris & Chadwick, 319.
- 50 Ventris & Chadwick, 123.
- 51 Lutz 1923, 11–18; Crowfoot 1955, 424, 448; Forbes 1956, 28–31; Patterson 1956, 195–6; Hodges 1976, 126–7. The process is illustrated in Egyptian tomb paintings and referred to in inscriptions (above, n. 42; Lutz, Forbes). Pliny details the operations minutely in a frequently quoted passage (Pliny, *Natural History* XIX 16–18 (from XIX 1–25)).
- 52 Lutz 1923, 19–20; Forbes 1956, 42–3; Lucas 1962, 166.
- 53 On the process of working hide and leather in the ancient world see Waterer 1956; Hodges 1976, 148–52.
- 54 Ventris & Chadwick, 489–93.
- 55 Douskos (AAA 14 (1981) 251–65) argues for these as thick woven material.
- 56 Hodges 1976, 125. Goat's hair was used in Egypt and the Near East (particularly amongst the Babylonians) and by the Greeks and Romans. Lutz 1923, 25, 27, 28, 30; Forbes 1956, 5, 7, 9, 58; Patterson 1956, 192.
- 57 Lutz 1923, 24. Cf. Herodotus, *Histories* II 81.
- 58 Ventris & Chadwick, 320, Knossos L870; cf. 322–3, Mycenae.
- 59 For fuller descriptions see Forbes 1956, 21; Patterson 1956, 193–4; Hodges 1976, 124–5.
- 60 Forbes 1956, 12–15, 19–20; Patterson 1956, 192. Pliny on wool: *Natural History* VIII 190–7.
- 61 See for example C. Renfrew 1972, 352–3; Marinatos 1967, fig. 1, 17; Hood 1971a, 93.
- 62 Warren 1972, 262–3.
- 63 Thera I, 21, fig. 22; 24, fig. 27; Thera II, 47 and pl. 39; Thera III, 9 and pl. 4 (A1); Thera IV, 27 and pl. 50a; Doumas 1974b, 206/216; Doumas 1983, 117.
- 64 See in particular Lutz 1923, 40–72; Forbes 1956, 149–71, 192–219; Hodges 1976, 128–9, 133–45. On the warp-weighted loom (with particular reference to its northern usage): Hoffmann 1964. The horizontal loom was used in Egypt from c. 3000 until the 16th century (Lucas 1962, 166). The vertical frame loom was used in New Kingdom Egypt and is thought to have been imported from Syria or Palestine. In Greece and Rome it did not make its appearance until the Christian era. The warp-weighted loom was used at Troy c. 2500 (Blegen 1950, 360) and is shown in representations on Greek pottery.
- 65 On Aegean weaving see Carington Smith 1975. Terra-cotta spools found in MBA contexts on the mainland and on Kea also suggest the use of the horizontal loom (J. Davis, 'Cultural innovation and the Minoan thalassocracy at Ayia Irini', in Hägg & Marinatos 1984, 159–66 at 162–3), but it appears to have gone out of use in both areas in LB I. For a diagram of the warp-weighted loom see Hodges 1976, 135, fig. 31; reconstruction: Forbes 1956, 205, fig. 32c; cf. 202, fig. 31.
- 66 Ventris & Chadwick, 313.

- 67 Melena 1975, 80.
- 68 Strictly speaking, the alternation of warps is termed 'band' and the alternation of wefts, 'stripe'. Forbes 1956, 188 and 184, fig. 25 C and D. On the production of stripes in weaving: Lutz 1923, 48, 54.
- 69 Cf. Melena 1975, 113.
- 70 The green garment on a man on Ship 2 is a modern reconstruction.
- 71 Forbes 1956, 94, 207, 208.
- 72 Fulling is a process of thickening woollen cloth in order to adhere the fibres and get rid of gaps in the weave; various alkaline detergents were used for the purpose. See Patterson 1956, 214–19; Forbes 1956, 81–97. 'Fuller' is amongst the specialized textile occupations mentioned in the Linear B texts (Ventris & Chadwick, 123).
- 73 Forbes 1956, 125.
- 74 Ibid. 100–8 and table II; Lucas 1962, 172–3. On dye sources see also Carington Smith 1975, 42–51, including tables. On Minoan red dye substances see Murray & Warren 1976, 47–54, who also mention the terebinth or turpentine tree, *Pistacia terebinthus*, and safflower, *Carthamus tinctorius* (which produces a red dye, carthamin, as well as yellow).
- 75 Grieve 1978, 504–5 (madder), 18–19 (alkanet).
- 76 Forbes 1956, 108, 140. Pliny, *Natural History* XIII 136 (on Crete).
- 77 Luther & Fiedler 1976, 186–7 and 164, pl. 27.
- 78 Pendlebury 1967, 126, 281.
- 79 Hood 1971a, 94.
- 80 Kythera: Coldstream & Huxley 1972, 37, pl. 13c. Thera: Doumas 1974b, 204/215.
- 81 Forbes 1956, 108–12 and table III; Lucas 1962, 173.
- 82 Grieve 1978, 852–3.
- 83 Forbes 1956, 132–3; Lucas 1962, 176–7.
- 84 Zervos 1957, pls. 342–3.
- 85 Atkinson & Bosanquet 1904, pl. 13 (17).
- 86 *Thera* IV, col. pl. G (a).
- 87 *PM* I, 272, fig. 201. Warren 1979a, 124, fig. 2, provides another example of the wavy type in a terracotta head from Traostalos.
- 88 Marinatos & Hirmer, pls. 104–5.
- 89 Cameron 1967b, 337, fig. 6 (A, E, F).
- 90 Marinatos & Hirmer, pl. 69.
- 91 Ibid. pl. 204.
- 92 E.g. Lang 1969, 31 H nws, pl. 23, N.
- 93 *CMS* I, 223.
- 94 Vercoutter 1956, pls. 5–8.
- 95 From the Ivory Deposit at Knossos came fragments of bull-leapers whose heads have holes for the insertion of locks. Gold-plated bronze wires, found in the same deposit, had been twisted to represent the locks (*PM* III, 428ff., figs. 297–300; Marinatos & Hirmer, pl. 96). A head of a clay figurine from Juktas has a hole in the same relative position as the lock of the Thera Fisherman (*Praktika* 1974, pl. 177). A single hole in the back of the head of the best preserved woman in the ivory group of two women and a child from Mycenae (Marinatos & Hirmer, pl. 218) may have been for 'hair', perhaps a lock or braid such as that represented in the Xesté 3 lady in Pl. 40, or on an ivory lid from Minet el Beida, Syria and on a lady on an ivory plaque from Mycenae (Hood 1978, 130, fig. 122B–C).
- 96 See Ch. 5, p. 90 nn. 16 and 17. Some Middle and New Kingdom Egyptian statuettes have holes drilled into the crown or sides of the head for the insertion of either real hair or sculpted imitations (Hayes 1953, 220–1; Lloyd 1961, pl. 124). Sumerian warriors wore helmets with a recess in the back for hair or plaits (Yadin 1963, 49).
- 97 *PM* II, 756, pl. 13. This is interpreted by Marinatos as a cap with horns (1967, B 12); cf. Hood 1971a, 221. More exaggerated pieces, probably feathers, are attached to the heads of two acrobats on a flattened cylinder seal from near Knossos (Hood 1971a, 98; 1976, 228, fig. 231).
- 98 Lutz 1923, 168.
- 99 *Thera* V, 33 and pl. 77b.
- 100 *Thera* VII, col. pl. J and pl. 64.
- 101 *Thera* VII, pls. 65–6. Cf. Abrahams 1908, 112, fig. 45.
- 102 Hood 1978, 104, fig. 86 (MM III).
- 103 E.g. Marinatos & Hirmer, pl. 111; LM I–II gold ring; pl. 132 (above): LM III group of women in clay, from Palaikastro.
- 104 *Prehistory & Protohistory*, col. pl. on p. 323; Kritseli-Providi 1982 (B–1), col. pl. Γ a, pl. 4.
- 105 See for example Lutz 1923, on Egyptian clothing: 19, 104, 105, 118 (on fabric, length and width of material as distinguishing factors for rank, social position and, in the case of officiating priests, form of ritual); cf. on Assyrian clothing: 153 (costumes of civil and military officers); 156–7 (distinctions between the tunic of peasants and that of certain military classes and hunters); 158–9 (robes of king, high officials and priests); and on Hittite clothing: 163–4 (costume of the king, priests and nobles).

7 Armour and weapons

- 1 Dickinson 1977, 67.
- 2 Cf. Yadin 1963, 71.
- 3 16th-century swords and daggers: Sandars 1961; Branigan 1968 and 1974; and for the Shaft Graves: Karo 1930; Mylonas 1973; Dickinson 1977; Hood 1980. 15th century: Sandars 1961 and 1963; see also the Warrior Graves at Knossos: Hood & de Jong 1952; Hood 1956.
- 4 The term 'rapier' is sometimes applied to all thrusting swords, and sometimes restricted to short swords (as for example Branigan 1974, 15: 30–60 cm). Cf. Gordon 1953.
- 5 Though a date as late as c. 1200 has been proposed for the development of the slashing sword, Taylor (1964, 146) suggests the end of the 14th century (LH IIIa), and D. H. Gordon (1953, 70) claims that the long Mallia sword was a cut-and-thrust weapon, though not yet fully developed. Cf. Snodgrass 1964, 104–5.
- 6 Karo 1930, 200–6; Dickinson 1977, 182, fig. 8 (1 and 2).

- 7 Sandars 1961, 25 and pl. 20. The earliest are from the First Palace of Mallia and the MM III votive deposit at Archalorchori, the latest are from LH IIIa tomb contexts.
- 8 Ibid. p. 27 and pl. 20. The latest contexts are LH II–IIIa on the mainland and IIIb on the islands.
- 9 Branigan 1968, 198; 1974, 163, Catalogue nos. 479, 480 = Renfrew 1967, Catalogue no. 69, pls. 7 (VII) and 8, Montelius 1924, pl. 9 (2).
- 10 Branigan 1974, Catalogue nos. 138, 413. No. 138 is of a type (IIb) known from elsewhere in the Cyclades and common in Crete, frequently from an EM I–MM I context. Cf. description p. 8; pl. 3, no. 135 (Cyclades); Catalogue nos. 131–41.
- 11 *Thera* IV, 38, pls. 89a and 90.
- 12 Cf. in particular, Ayia Triada, MM I–II: Branigan 1974, Catalogue no. 376, pl. 9 (= 1968, Catalogue no. 20, pl. 3); Shaft Grave Γ: Mylonas 1973, pl. 55 (2 β); Shaft Grave IV: Karo 1930, pl. 98 (centre).
- 13 Cf. Dickinson 1977, 69, fig. 8 (5). Mylonas 1973, pl. 18a (Grave A), pl. 54 (1) (Grave Γ); Karo 1930, pl. 73 (Grave IV); pls. 80 (752) and 81 (729) (Grave V); pl. 95 (905) (Grave VI).
- 14 Montelius 1924, pl. 9 (8 and 10).
- 15 Dickinson 1977, 68.
- 16 Gordon proposes the following: dirk 35–50 cm; short sword 50–70 cm; long sword over 70 cm (1953, 67). Snodgrass considers these numbers to be slightly too high (1964, 104). Many scholars call anything over 33 cm a sword, and anything under, a dagger; others take 50 cm as the lowest length for a sword (e.g. Evans, *PM* IV, 851 n. 2).
- 17 Sign group 'pa-ka-na'; Snodgrass 1965, 107–8. Snodgrass considers the ideogram to mean 'dagger' and suggests that another word was used for sword.
- 18 Cf. *PM* IV, 864, fig. 849, and 866, fig. 851; Hood & de Jong 1952, 273, fig. 15a; Ventris & Chadwick, 347, fig. 24.
- 19 Cf. *PM* II, 272, fig. 162 (Mallia); *PM* IV, 866, fig. 851 (Zapher Papoura, Knossos); Hood & de Jong 1952, pls. 53a and 273, fig. 15a (New Hospital Site, Knossos); Mylonas 1973, pls. 67–8 (Shaft Grave Δ); Karo 1930, pls. 82–4, 87 (294), 92 (Shaft Graves IV and V); Persson 1931, pl. 21, left (Dendra); Marinatos & Hirmer, pl. 170 above (= Karo, pl. 92), pl. 171 (= Persson, pl. 21), pl. 173 (Staphylos on Skopelos). Also: Evans 1906, 110–11 (faience and agate, Mycenae; crystal, Knossos); Karo 1930, pl. 88 (435) (ivory with gold, Shaft Grave IV, Mycenae); Sandars 1961, 17 (gold and ivory, Mallia).
- 20 E.g. Gold: Karo 1930, pl. 75 (Shaft Grave IV), pl. 83 (Grave V). Ivory: Evans 1906, 55–7, fig. 58 (Zapher Papoura, Knossos); Hood 1956, 95 (Ayios Ioannis, Knossos); Hood & de Jong 1952, 265, pl. 53a (Sword II (3), Hospital Site, Knossos); Mylonas 1973, pl. 68 (Shaft Grave Δ); Karo 1930, pl. 76 (295, 490) (Shaft Grave IV). Rock-crystal: *PM* II, 272, fig. 162 (Mallia); Karo, pl. 78 (105) (Shaft Grave III). Alabaster: Karo, pl. 76 (484–7) (Shaft Grave IV). Agate: fig. 323 (Zapher Papoura, Knossos); Persson 1931, 61 (Dendra). A narrow gold ring sometimes separated the hilt from the pommel (*PM* IV, 866, fig. 851; Hood & de Jong 1952, 273, fig. 15a; Ventris & Chadwick, 347, fig. 24), and the pommel might be set into a support shaped like a cup and then riveted in place: Hood & de Jong 1952, pl. 54a.
- 21 *Thera* VI, 47.
- 22 For a later instance, probably attached to the pommel, see Guida 1973, pl. 33 (I), LH IIIc sherd from Lefkandi.
- 23 Karo 1930, 124, pl. 56 (639).
- 24 *AR* (1962–3) 19, fig. 21.
- 25 Hood & de Jong 1952, 255.
- 26 *PM* III, 82, fig. 45 (a, b); *PM* IV, 841.
- 27 As argued by Lorimer 1950, 256. Captain of the Blacks: *PM* II, 755–7, pl. 13; *PM* IV, 886, fig. 869. Tiryns: *Tiryns* II, pls. 1 (6), 11 (5).
- 28 Hood & de Jong 1952, 256. Cf. Hood 1956, 95–6. See also Snodgrass 1967, 17, on distinction in the Shaft Graves.
- 29 Chadwick 1976, 172.
- 30 Catalogue of Bronze Age boar-hunting scenes: Buchholz *et al.* 1973, 37–8 (description 30–9, illustrations pp. 31, 77). Borchhardt 1972, Catalogue 3, 31–3. To the Tiryns boar-hunt fresco (Buchholz, Cat. no. 7) should be added the newly published fragments from Orchomenos (*AAA* 7 (1974) 3, col. pl. 3), of which the hunters with spears are illustrated here in Pl. 158. The Lasithi dagger (Buchholz, Cat. No. I) has now been dated to LM Ib–IIIa (Long 1978).
- 31 Lang 1969, 16 H 43, pls. 12, 121, B.
- 32 Sealstone from Vapheio: Marinatos & Hirmer, pl. 211 (above). Mycenae grave stele: Marinatos & Hirmer, pl. 146. Fresco fragments of warriors with spears associated with horses and chariots: *Tiryns* II, pls. 1 and 11. Mycenae (Ramp House): Lamb 1921–3, pl. 27.
- 33 Lang 1969, 26 H 64, pl. 123 (chariot scene); 21 H 48, pls. 15, 122; 19 H 43, pls. 14, M. In the last case Lang has reconstructed the spears of companion warriors with lanceolate ends (pl. M); this is presumably on the analogy of Tiryns, as no such spear-heads survive among the published paintings from Pylos. Fragments with spears whose ends have not survived: 16 H 43, pls. 12, 121 (deer-hunt); 29 H 64, pls. 21, 124; 23 H 64, pls. 17, M.
- 34 Rodenwaldt 1921, pl. 1, fr. 5; pl. 3, fr. 11. Another fragment with a man carrying a spear is incomplete and the end not visible: pl. 1, fr. 7. Cf. also p. 40, fr. 13 (not illustrated).
- 35 Lamb 1921–3, pl. 27.
- 36 *Tiryns* II, pl. 1 (6), pl. 11 (5).
- 37 Ibid. pl. 11 (2), pl. 13.
- 38 See especially Höckmann 1980a and b; see also Dickinson 1977, 70 and pl. 8 (3); Lorimer 1950, 254–6; Snodgrass 1964, 116; Taylor 1964, 145 and fig. 57. Hood & de Jong 1952, especially 255–6, 261 (AJ (2)) and n. 103 for comparisons, and 267 (II (4)), 271 (III (14)), figs. 8, 12, 15b, pl. 53b; Hood 1956, fig. 4.
- 39 Hood & de Jong 1952, 255; Hood 1956, 95 and fig. 4.

- Tips of wooden shafts preserved in the sockets were identified as olive: Hood & de Jong 1952, 267 (II (4)) and 271 (III (14)).
- 40 Dickinson 1977, 70. Cf. Snodgrass 1967, 16.
- 41 Gold foil found in association with spear-heads in the Mycenae Shaft Graves may have been wrapped around the joins of the wooden shaft (Dickinson 1977). The tassels are probably for military show; Karo calls them 'Wimpeln?', pennons or ensigns (1930, 74 (241)). A spear-head from Mycenae has a metal loop attached to the side (Dickinson 1977), whose function is undetermined. Cf. the attachments to the spear shafts on the IIIc Mycenae Warrior Vase (Guida 1973, pl. 31 (1), Catalogue no. 81).
- 42 Cf. *Iliad* XV 725–46: Ajax, in the battle at the ships, fends off the Trojans from the ship he is standing aboard with a pole.
- 43 *Iliad* VII 219; XI 485; XVII 128: Ajax is described as having a shield like a tower. Cf. *Iliad* XV 646, Periphetes trips against the rim of his shield which reaches to the feet. The latter could as well apply to the figure-of-eight shield, but the former is distinctly rectangular. On the oral transmission of phrases referring to Mycenaean shield-types see in particular Page 1959, 232–5; Luce 1975, 105–6.
- 44 For catalogue and discussion of the figure-of-eight shield see in particular Guida 1973, 17–37; Borchhardt, in Buchholz *et al.* 1977, E 1–15.
- 45 Exceptions: rectangular shield on the Tiryns sherd (below, p. 107, n. 49); figure-of-eight on the LH IIIb Delos warrior (BCH 71–3 (1947–8) pl. 25; Poursat 1977a, pl. 14 (1); Guida 1973, pl. 28 (1)), and the large disembodied shields of wall paintings (Guida 1973, pl. 4 (2), Knossos; pl. 4 (1), Tiryns; pl. 8 (2), Mycenae). But cf. Warren 1978, 105, who suggests that the figure-of-eight shield did not go out of use in the age of corselets. Guida refers to isolated fresco fragments from Pylos (Lang 1969, 71, pl. 21) and Tiryns (*Tiryns* II, 10, pl. 3 (3)) which might conceivably represent dappled rectangular shields belonging respectively to LH IIIb and LH IIIa (1st Palace). Their identification is, however, hypothetical, the fragments being too small for their context to be defined (Guida 1973, 16 n. 13, 17 n. 14).
- 46 Sakellariou 1974.
- 47 Another Cretan example may exist on a sealing from Zakros: Levi 1925–6, fig. 233, pl. 18; Guida 1973, 16, pl. 6 (1). On the right there appears to be a zoned helmet, a rectangular and a figure-of-eight shield.
- 48 CMS VII, no. 129, p. 169. Lorimer (1950, 144) suggests LM III.
- 49 Vermeule and Karageorghis 1982, 229, X.19.1.
- 50 Cf. Hood, AR (1960–1) 9: remains of wood and hide probably belonging to a (small?) shield found in Tomb 13 at Dendra (c. 1400) alongside the bronze corselet. It is uncertain how the hides were fixed to the wood, though stitching and binding are the most likely methods (both would be necessary); the binding could have been of strong leather thongs or, more efficiently, of wire (cf. Hood 1956, 96).
- 51 Cf. Yadin 1963, 14.
- 52 *Iliad* VII 219. The shield is said to be made of bronze and seven layers of leather, each being the hide of a single bull. The bronze is not part of the framework but an overlaid eighth layer on the outside. Bronze in any quantity on such a shield would be excessively heavy. Unless the poet combined traditions of the earlier hide body-shield with the later small metal shield, it may be that the bronze overlay should be understood as small attachments on to the hide. Dickinson (1977, 71) suggests that the perforated bronze discs from Shaft Grave IV (Karo 1930, pl. 70), usually called helmet attachments, may rather have been for armour. In the representations of shields in Pls. 147–8, bosses on the surface suggest such metalwork (though they could also be stamped leather). In the Near East, metal plates or studs were sometimes used as stiffeners on hide shields by way of a compromise between strength and lightness (Yadin 1963, 15).
- 53 Hodges 1976, 148–52.
- 54 Cf. Lorimer 1950, 137.
- 55 E.g. Pritchard 1969, pl. 180 (Middle Kingdom models); Yadin 1963, 202–3, illustrations of the manufacture of hide shields on wooden frames, 15th-century wall paintings from the Tombs of Hapu and Rekhmire.
- 56 Yadin 1963, 64–5. The change is not merely one of body-protection but of tactics. The combination of corselets and a small round shield for the protection of the head afforded greater manoeuvrability.
- 57 *Thera* VI, 47.
- 58 As Warren 1978, 104.
- 59 *Iliad* XV 646.
- 60 Lorimer 1950, 211–49; (Xenaki-)Sakellariou 1953; Alexiou 1954; and more recently, Korres 1970, 16–22, 37–49; Henken 1971; Borchhardt 1972; Guida 1973, 79–104; Buchholz *et al.* 1977, pp. E 57–74; Varvarigos 1981.
- 61 Yadin 1963, 15.
- 62 *Iliad* X 261–71. Cf. comments by Henken 1971, 18. The principle of an outer shell over an inner cap would also have applied to metal helmets. Small holes were pierced around the edges of the one from Warrior Grave V at the New Hospital Site, Knossos (Hood & de Jong 1952, 257, pl. 50a).
- 63 Cf. an incised axe in the Giamalakis collection ((Xenaki-)Sakellariou 1953, figs. 1–3); and the Isopata vase (Evans 1914, 27, fig. 37b).
- 64 Hood (1971a, 122, fig. 98) suggests these were of metal.
- 65 Cf. Hood & de Jong 1952, 257.
- 66 See Wace 1932, pl. 38, boars' tusks from Chamber Tomb 518 at Mycenae (LH I) reconstructed as a helmet on a modern felt backing. Cf. Karo 1930, pl. 69, tusks from Shaft Grave IV. Lorimer (1950, 213) draws attention to the Homeric phrase ἔνθα καὶ ἔνθα in describing the alternate placing (this way and that) of the tusks.
- 67 Spata, East Attica: Marinatos & Hirmer, pl. 215; Borchhardt 1972, pl. 2(3); Guida 1973, pl. 28 (2). Mycenae Chamber Tomb: Marinatos & Hirmer, pl. 214; Borch-

- hardt 1972, pl. 2 (1); Guida 1973, pl. 27 (1). House of the Shields, Mycenae: Wace, *BSA* 49 (1954) pl. 35 (b, c); *BSA* 50 (1955) pl. 25 (c); Borchhardt, pls. 2 (5, 6) and 3 (3); Guida, pls. 29 (2) and 30 (4). Cf. Enkomi: Borchhardt 1972, pl. 2(4).
- 68 Borchhardt 1972, 19–20 and fig. 1; Varvarigos 1981, 137–44, figs. 3–8.
- 69 Cf. Alexiou 1954, 212.
- 70 Straight tusks from Shaft Grave IV (Karo 1930, pl. 70) may have been for ear-guards. Cf. Wace 1932, pl. 38 (left). Cheek-pieces, which protected a large portion of the face, are rarer. They are represented on the Ayia Triada Boxer Rhyton, on an ivory from Archanes (Varvarigos 1981, pl. 13a) and on an MH III–LH I gold ornament from Pylos (Borchhardt 1972, pl. 9 (4)) and appear on the metal helmet from Warrior Grave V at the Hospital Site, Knossos (nn. 62 and 76). Contemporary with the latter (LM/LH II), a helmet from Dendra combined materials by adding metal cheek-pieces to a boar's-tusk covered cap (Hood, *AR* (1960–1) 9; Snodgrass 1969, 25–6).
- 71 Wace, *BSA* 51 (1956) pl. 17.
- 72 Hogarth 1902, 79, figs. 9–10 (24–5) (Zakros sealings).
- 73 *PM* IV, 575, fig. 555.
- 74 Lorimer 1950, 214; Borchhardt 1972, 25; Varvarigos 1981, 47–8.
- 75 Karo 1930, pl. 70 (labelled Grave V, but cf. text p. 113: Grave IV). Cf. Guida 1973, pl. 25 (2–3), which includes a profile view of the construction showing how it was inserted into the helmet.
- 76 Lorimer 1950, 224. Plume-holders were also attached to metal helmets, see Hood & de Jong 1952, 256, 257, pls. 50a, 51.
- 77 See esp. Borchhardt 1972, 23–4, 47–8.
- 78 E.g. Hood & de Jong 1952, 257 n. 63; Alexiou 1954, 212; Borchhardt 1972, 21 and 24.
- 79 Cf. the helmet plumes on the LH II Katsamba amphora: Alexiou 1954, pl. 8; Borchhardt 1972, pl. 8 (1).
- 80 Lorimer 1950, 217.
- 81 *Ibid.* 239–41, quote 240.
- 82 Hogarth 1902, 79, fig. 9, no. 24.
- 83 Above, n. 79, and Alexiou 1954, pl. 9. Alexiou interprets the discs as metal but considers a mixture of tusks and discs on a helmet unlikely in reality (211).
- 84 Karo 1930, 114 (541–9), pl. 70. But cf. n. 52 for Dickinson's view that these were armour attachments.
- 85 Caskey (*Hesperia* 35 (1966) 375) considers that the soldier is a Mycenaean Greek rather than a Minoan and therefore that the marble slab belongs to the LH IIIa–b period rather than the beginning of the Late Bronze Age. The Thera paintings, however, suggest that the earlier date is possible. Borchhardt catalogues the helmet as LH I–II (1972, 73; Catalogue 16 I).
- 86 One of two fragments from a faience pot: Karo 1930, 61, fig. 16.
- 87 Persson 1931, 61, fig. 39, and 63, fig. 41.
- 88 E.g. Karo 1930, pl. 71 (894, 895) Shaft Grave V.
- 89 Borchhardt 1972, Catalogue 8, pp. 46–7.
- 90 Borchhardt 1972, Cat. no. 2, 16–18. Number 2 II (Cabinet des Médailles, Paris, unknown provenance) is included by Borchhardt under mainland examples because of the warrior's Mycenaean-style shorts.
- 91 *CMS* I, no. 12.
- 92 Borchhardt 1972, 45–6. (But cf. p. 16 on the latter point.)
- 93 *Ibid.* Cat. no. 20.
- 94 Borchhardt 1972, Cat. no. 5, 33–7; Varvarigos 1981, 98–110. See also *AR* 28 (1981–2), 58, fig. 128.
- 95 Borchhardt 1972, Cat. 9 B; Varvarigos 1981, 112–17.
- 96 See for example Borchhardt 1972, 48 n. 194. Knossos fragment: Warren 1969, P488c; Kaiser 1976, pl. 13c. The sealing from Zakros in Hogarth 1902, 82, fig. 14, no. 49, is not included by Borchhardt.
- 97 Borchhardt 1972, 19, 32–3.
- 98 *Ibid.* Cat. 9 A, 52, and 48.
- 99 A. Lembesi, *Praktika* 1967, 208 and pl. 192 β.
- 100 Long 1978.
- 101 Kaiser 1976, pl. 21a.
- 102 Y. Sakellarakis and E. Sapouna-Sakellarakis, *National Geographic* 159 (Feb. 1981) 206.
- 103 Long 1978, 39–40.
- 104 J. L. Caskey, *Hesperia* 33 (1964) 325, pl. 52f.
- 105 *Iliad* X 266–70.
- 106 Those of the Knossos miniatures, identified by Evans, lack the necessary gear (n. 26). A single helmeted figure appears amongst the Kea miniatures (Abramovitz 1970, 13; 1980, 65 (Cat. 83), pl. 5a), but this is a hunter.
- 107 Lang 1969, pls. 123–4, 129–30, col. pls. C, M, N.
- 108 Yadin 1963, 15.

8 The identity of the people

- 1 *Ergon* 1972, 105.
- 2 Tilley & Johnstone 1976, 286.
- 3 Ventris & Chadwick, 161 and 125, Ad684.
- 4 *Ibid.* 211–12 and 125, Ch902.
- 5 Unlike Egyptian representations, in which the helmsmen frequently appear in diminutive scale dwarfed by their rudders (Fig. 84).
- 6 Cf. Fig. 81 (Enkomi) and Layard 1849, pl. 71 (Phoenician ships, Nineveh relief) for later instances of the two-tiered positioning.
- 7 Sometimes said to represent the stacked-up shields of the warriors (e.g. Immerwahr 1977, 177 n. 17).
- 8 On Minoan–Mycenaean gestures see Brandt 1965, 1–34 (votive figurines: 20–3).
- 9 *Thera* VI, 44.
- 10 Morgan 1983.
- 11 Tyllissos: M. C. Shaw 1972, figs. 3, 5, 7, 13. Kea: Abramovitz (Coleman) 1970, 14, 99, 134–5; 1980, 58, 59, 64 (Cat. 66–8), pl. 4c. Cf. sealstones showing poles for bearing animals: e.g. *PM* IV, 442, fig. 367; Branigan 1970a, 71, fig. 14.
- 12 *PM* I, 505, fig. 363a.
- 13 *CMS* I, no. 101.
- 14 Cf. gold signet ring from Isopata: *PM* III, 68, fig. 38;

- Brandt 1965, pl. 1 (1), p. 5; gold ring from Phaistos: *PM* II, 764, fig. 492c.
- 15 Cf. monkeys with raised arms in sealings from Zakros and Ayia Triada: *PM* II, 764, fig. 492 (a, b).
 - 16 Cf. Halbherr 1903, 42, fig. 36 (Ayia Triada); Atkinson & Bosanquet 1904, 193, fig. 162 = *CMS* I, no. 410 (Phylakopi); *CMS* I, nos. 86, 108, 127 (Mycenae); *CMS* I, no. 191 (Midea); *CMS* I, no. 313 (Pylos). The raised arm is sometimes applied to male figures, though not, it seems, in front of horns: *CMS* I, no. 107 (Mycenae), no. 292 (Pylos).
 - 17 Marinatos, *Thera* VI; Immerwahr 1977; Negbi 1978; Iakovidis 1979; Warren 1979a; Davis 1981 (*contra* Iakovidis); Laffineur 1983 and 1984.
 - 18 Cf. Immerwahr 1977, 178, on the problems of distinguishing Minoan and Mycenaean aspects of iconography.
 - 19 *Thera* VI, 54, pls. 108–9; cf. Immerwahr 1977, 177–8; Negbi 1978, 646; Iakovidis 1979, 101.
 - 20 Marinatos 1962; Hood 1978, 224–5. Hood and Betts (Betts 1981, 2–8) consider the Shaft Grave seal to be of Cretan work (*contra*: I. Pini, 'Minoische Siegel ausserhalb Kretas', in Hägg & Marinatos 1984, 123–31 at 129).
 - 21 Immerwahr 1977, 176–9, 181; Negbi 1978, 646.
 - 22 Immerwahr 1977, 180–1; Negbi 1978, 646–7; Warren 1978, 104; 1979a, 128–9; Iakovidis 1979, 101. But cf. Dickinson 1977, 56.
 - 23 Morgan (Brown) 1978, 639.
 - 24 Immerwahr 1977, 174–5. Cf. Warren 1979a, esp. 125–8, for an identification of the setting of the scenes as Cretan, with the exception of the Arrival Town which is taken to be on Thera. Warren assumes that the Siege Rhyton is a Minoan work (125–6). Gesell 1980 identifies the scene of The Ship Procession as a specific reflection of East Cretan topography.
 - 25 Negbi 1978, 651–2.
 - 26 *Ibid.* 655.
 - 27 Immerwahr 1977, 178, 182 (quote), 183.
 - 28 Warren 1979a, 128–9.

9 Ships and boats

- 1 On the Thera ships see: Basch 1983; Buchholz 1975; Casson 1975; Cervin 1977; Effenterre 1978; Emanuele 1977; Gillmer 1975 and 1978; Johnstone 1982; Kennedy 1978; Marinatos, *Ergon* 1972, 104–5; 1973c; 1974a; *Thera* VI, 46–52; Morgan (Brown) 1977 and 1978; Raban 1984; Tilley & Johnstone 1976. Also further articles in *IJNA*: S. Wachsmann (9 (1980) 287–95); M. G. Prytulak (11 (1982) 3–6); H. E. Giesecke (12 (1983) 123–43).
- 2 On this distinction see in particular Marinatos 1933; Casson 1971, 30–4; Gray 1974, ch. 2.
- 3 Here the curve is at the stern. Cf. cargo ships in the wall paintings of the 18th dynasty Tomb of Huy (Davies & Gardiner 1926, pls. 32–3).
- 4 The reason is not, as Marinatos supposed (*Thera* VI, 43), because the artist only had space for the mast on the upper row of ships. Ship 3 in the upper row is not so privileged, yet the painter needed only to place it on the same level as 1 and 2 (and to lower 6) for there to be space enough for another mast. The distinguishing features of Ships 1 and 2 make clear the function of the raised mast. Besides the features referred to here (1: man with votive gesture; 2: dress-ship lines) we may add: both ships (and only these) have a butterfly prow motif (also applied to the mast-top of 2); Ship 2 has a larger more elaborate stern cabin, painted designs of lions, dolphins and a star on the hull, and an emphasis on the colour blue (awning, cabin base, stern projection, area of the hull in which the star occurs, flag or wind-catcher attached to the rudder).
- 5 Cf. Casson 1975, 5.
- 6 Casson 1971, 69, 231.
- 7 Gray 1974, 105.
- 8 Landström 1970, 72, 80, 86 and figs. 240–2.
- 9 Casson 1971, 233.
- 10 Lang 1969, 186, 19 M ne, pls. 113, L. The image is recognized as a ship's mast comparable to that of the Thera ships by van Leuven 1979, 127–8 n. 49; and by M. C. Shaw 1980, 177–8, ill. 12.
- 11 E.g. *PM* II, 245.
- 12 Hutchinson 1968, 96.
- 13 Cf. mast-foot structures on Middle Kingdom models of boats: Reisner 1913, 66, fig. 239; Winlock 1955, pl. 85. It has often been argued that Homeric ships were fitted with such a device: Morrison & Williams 1968, 52; Casson 1971, 47; Gray 1974, 99.
- 14 Landström 1970, 72.
- 15 Marinatos 1974a, 149; *Thera* VI, 49–50.
- 16 *Thera* VI, 49. Cf. Casson 1975, 5, who also interprets the structures above the men on the rowed boat as the mast together with other spars.
- 17 Thus Emanuele (1977, 181) discusses at some length the positioning and usage of the rings (even commenting which ropes run through which rings) though nothing of this is preserved in the original.
- 18 Casson 1966, 43.
- 19 Gillmer (1978, 126 and 133) overlooks this convention of ancient art and interprets the relative position of sail to hull line in a literalistic manner by describing the sail as 'set hard on the wind'. The true position of the sail cannot be determined for the convention obscures the evidence. Generally, it is claimed that early square-rigged sails were only capable of catching the wind well abaft the beam (e.g. Clowes 1930, 12; Faulkner 1940, 6; Lethbridge 1952, 152–3). Casson, however, has argued for the existence of fore-and-aft sails during the Hellenistic period (1954, 214; 1966; 1971, 243–5, 273–4; cf. Morrison & Williams 1968, 312–13) and one would expect an understanding of shifting the angle of the sail to catch the wind to predate the actual use of a sail designed specifically for this purpose. Nonetheless, the impression that the sail in the Thera painting is drawn round to a starboard wind, on a broad-reach, must be set against the context of convention.

- 20 Torr 1894, 96.
- 21 Marinatos 1933, 209.
- 22 Cf. Casson 1971, 47.
- 23 See K. R. Gilbert, 'Rope-making', in Singer & Holmyard 1955, 451–5.
- 24 E.g. Hutchinson 1968, 94; Branigan 1970a, 191; Gray 1974, 42, 45.
- 25 Torr 1894, 78. The Minoan seal in Fig. 79 appears to show this feature in exaggerated fashion and the spars look as though they have come adrift.
- 26 Not brails as Marinatos suggested (1974a, 149; *Thera* VI, 50).
- 27 Compare for example the sailors handling the ropes on an 8th c. ivory plaque from the Temple of Artemis Orthia, Sparta (R. M. Dawkins, *JHS* Supplement no. 5, 1929, pls. 109–10). If a sailor were not depicted on the other side of the mast (as the reconstruction suggests) he must at any rate have existed in reality for the handling of the lifts to have been efficient.
- 28 Marinatos 1974a, 149; *Thera* VI, 52.
- 29 Marx 1946, 29.
- 30 In contemporary Egypt the mast was supported by one backstay and two forestays (Marx 1946). The same combination was later used on Classical Greek ships (Torr 1894, 78) and has been assumed for Homeric ships (Kirk 1949, 131; Lethbridge 1956, 565; Casson 1960, 37–8; 1971, 47; Gray 1974, 100). It is not often clear on Minoan sealstones whether running or standing rigging is intended, but forestays are shown in Fig. 83 (cf. *CMS* I, no. 436) and backstays in Fig. 52. The ship on a Mycenaean sherd from Phylakopi (Atkinson & Bosanquet 1904, pl. 32 (11a) shows one forestay and three backstays, as does that on the LH IIIc sherd from Tragana near Pylos in Fig. 88. Shrouds (the other form of standing rigging) were not a feature of ancient sailing until Roman times (Landström 1969, 31).
- 31 Cf. the ship on an LH IIIc stirrup jar from Asine (Morrison & Williams 1968, pl. 1c (B.A.3)); and on a post-Palatial larnax from Gazi (S. Alexiou, *AE* 1972, 87, fig. 1).
- 32 The same position is adopted by helmsmen in Old Kingdom representations (e.g. Landström 1970, 55, fig. 158) where the same principle of an unattached steering oar hung over the starboard quarter applies.
- 33 The Homeric word *πηδάλιον* is written in the singular though Kirk points to one exception (Kirk 1949, 130). Two steering oars are certainly represented by the 8th century (Casson 1971, 46) though it seems that Classical texts refer to both single and double steering oars, the latter being more usual (Morrison & Williams 1968, 199). In Egypt two quarter rudders supported on a stanchion and operated by a tiller was the common arrangement, though the single rudder hung over the gunwale at the stern which was used in the Middle Kingdom was still occasionally retained (Faulkner 1940, 6–8; Marx 1946, 27). The device operated by the seated helmsman on the Aegean seal in Fig. 52 is idiosyncratic. Evidently no universal rule pertained.
- 34 Atkinson & Bosanquet 1904, pl. 5 (8c).
- 35 Clowes 1930, 32–3. For an illustration of the cup see Morrison & Williams 1968, pl. 19.
- 36 Casson 1975, 4–5.
- 37 The technique was applied in particular to animals: the dolphins, deer above the Departure Town, sheep and goats on the North Wall, and, from B 1, The Antelopes; but it was also applied to human figures, albeit less decisively: the passengers beneath the awnings and adjacent to the stern cabins, the men running on the hill near the Arrival Town.
- 38 Egyptian rowers began their stroke standing with knees flexed, and as the oar pulled against the water so the sailors fell to their seats, landing with a thud on their protective leather padding: cf. Fig. 74, from Hatshepsut's Punt expedition, for the seated moment; a further panel of the expedition for the standing moment (Naville 1898, pl. 73); and the funerary procession of boats from the Tomb of Nefer-Hotep for the moment of falling (Davies 1933, pl. 22). A good example of rowing a Greek ship can be seen on an 8th-c. bowl from Thebes: Casson 1971, pl. 74. For the same method in the Near East, an example is provided by the Phoenician ships in an Assyrian relief at Nineveh (c. 700) (Layard 1849, pl. 71; Torr 1894, pl. 2 (10); Casson 1971, pl. 78). An alternative method – standing, facing the prow and pushing on the oar – appears on a remarkable seal from Archanes (*Ergon* 1979, pl. 82), on another from Thebes (Fig. 98), and is depicted on a Neo-Assyrian relief from Khorsabad (Strommenger & Hirmer 1964, pl. 229) commented upon by A. F. Tilley, 'The survival of ancient Mediterranean boat designs', *MM* 59 (1973) 373–84.
- 39 Cf. Marinatos 1974a, 150, on the large paddled ships.
- 40 Similarly, in an unpublished fragment on display in Athens three oars are shown against the hull directed towards the prow (identifiable by the lookout-post and the long poles). *TAW* I, pl. K (second from right).
- 41 Hodges 1971, 83. A 5th dynasty representation shows that the sailors kneel (Landström 1970, 55, fig. 158).
- 42 Marinatos, *AAA* 8 (1975) 292; 1974a, 151; *Thera* VI, 51. Further comments are offered by Gillmer (1975, 324), who considers that as the ships are approaching the harbour 'paddles for short duration provide more manoeuvrability and speed'; and by Tilley & Johnstone (1976, 286) who consider that 'the ships are being paddled because they are about to enter waters too narrow, or a harbour area too crowded with shipping to use oars', also that since 'paddling takes up less space than rowing' it leaves more room for the passengers (288).
- 43 Casson 1975, 7.
- 44 Landström 1970, 58–9, comments on the Saqqara vessel: 'We can ask whether these giants could really be propelled by paddlers, and the answer is yes as long as they were going downstream against not to [*sic*] hard a wind. The paddles were only to give the ship steering speed, while the current answered for the adequate speed made good.'
- 45 Casson 1975, 7. The view expressed here is not entirely at

- variance with those cited in n. 42 above: if tradition called for paddling vessels on the occasion depicted in the painting, it is apparent that the occasion also demanded a journey of short duration in a harbour area with the participation of passengers on board.
- 46 Torr (1894, 21) estimated 5 ft (1.50 m) on the basis of the length of a Roman ship, and this became a generally accepted rule. 0.90 m as adopted by Marinatos (1974a, 151) is based on Vitruvius' estimate of 0.92 m for each interscalmia of a pentekontor.
 - 47 Marinatos 1933, 191–2.
 - 48 One of the Pylos tablets refers to 30 rowers (from five geographical areas) to go to Pleuron; but it is uncertain whether this represents the rowing crew of a single ship (Ventris & Chadwick, 186–7, 53 = An12).
 - 49 Hence the estimates by Egyptologists for the spaces between paddlers are less than those by Classicists for the spaces between rowers (e.g. Clowes 1930, 6–7, 9; Landström 1970, 65; cf. Faulkner 1940, 3).
 - 50 Marinatos 1974a, 151. Cf. Gillmer 1975, 326, who suggests around 28 m excluding bowsprit.
 - 51 Gillmer (1975) conjectures that the breadth would have been 7.1 m. On a papyrus of the Middle Kingdom the only survivor of a shipwreck recorded that he had gone to sea in a ship 120 cubits in length and 40 cubits in breadth (60 by 20 m) which was manned by 120 sailors (The Story of the Shipwrecked Sailor, in: A. Erman, *The Ancient Egyptians* (New York 1966) 29–30). Faulkner (1940, 7) comments on this large ship: 'This gives us a vessel constructed on a plan of three beams to a length, a proportion which gives considerable stability at sea, and which is still preferred today for small sailing cruisers up to about 6 tons.' Similar proportions comprise the formula for a modern Greek trecherdiri as given by a shipwright from Syria: 'Length over all equals length on keel plus one-third / Width equals one-half of keel / Depth in hold equals one-third width' (quoted by Throckmorton, *MM* 50 (1964) 214).
 - 52 Though Gillmer offers the estimate of 2.6 m (loc. cit.).
 - 53 The boathook is most clearly visible in Pl. 42 (cf. Pl. 3 above the drowning man). For a comparison, see the Egyptian boats in Fig. 94 where the boat-hook is held by the man at the prow.
 - 54 See in particular: J. W. Shaw 1973, 135–6.
 - 55 Marinatos 1974b, 95–6.
 - 56 Basch 1972, 15. This article provides a detailed account of the different methods of ancient hull construction. Cf. review by A. E. Christensen, *IJNA* 2 (1973) 137–45. On carvel *versus* clinker build see also Hornell 1939 and 1946; Hasslöf 1957–8. Accounts of the recent evidence from underwater archaeology can be seen in: Frost 1963; Casson 1963 and 1964; Bass 1961, 1967 and 1972; Throckmorton 1964; J. Taylor 1965; Blackman 1973.
 - 57 Herodotus, *Histories* II, 96.
 - 58 Ventris & Chadwick, 123 and 298, PY 189 = Na65, 'na-u-do-mo'.
 - 59 J. W. Shaw 1973, 138, 158, 160, 169–70, 174, 184. The variety of wood-working tools found on Minoan sites also provides evidence for a sophisticated variety of carpentry techniques (ibid. 44f.). Suggestions that early Mediterranean plank-built ships were joined by sewing with twine (Casson 1964a, 90–1; Morrison & Williams 1968, 50; Basch 1972, 15) are based on references from Latin writers, above all from Pliny's interpretation of the Homeric 'sparta' as cords for the planks (rather than rigging). Yet the same scholars who accept this interpretation nonetheless recognize that Odysseus' improvised boat is constructed by mortise and tenon (*Odyssey* V 244–61). The interpretation of 'sparta' as plank cords seems all the more improbable if the most hastily built Homeric ship was constructed with carpenter's techniques. The Latin references are few and being of such late date are not a reliable guide; they refer not to a specific time or place but to a legendary past evoking the realm of origins.
 - 60 The Cape Gelidonya wreck (c. 1200, the earliest known Aegean shipwreck) showed evidence that the side planks had been drilled with dowel holes (Bass 1961, 270, pl. 84, fig. 11; 1967, 48 and 51). The construction of Odysseus' boat by mortise and tenon has been referred to above (n. 59) and it has been suggested, on the evidence of texts in Sumerian, Akkadian and Assyrian, that Mesopotamian shipwrights also used mortise and tenon joints fixed with treenails (Casson 1967, 286–7). It thus appears to have been a widely used technique.
 - 61 Lethbridge 1952, 179.
 - 62 Πρόπος: its use in the epics is cited by Gray 1974, 98.
 - 63 Atkinson & Bosanquet 1904, 206, fig. 180.
 - 64 Frost 1963, 225–6; Casson 1963, 1964a, 1964b and 1967; Basch 1972. Casson (1964b) has also demonstrated that Odysseus built his boat on the shell principle.
 - 65 Clowes 1930, 10.
 - 66 Ibid. 20. Cf. Torr 1894, 40.
 - 67 Cf. Marinatos 1933, 194; Hutchinson 1968, 96–7; Gray 1974, 46.
 - 68 *PM* II, 244, fig. 141a–b.
 - 69 Hornell 1939, 36, 39; Torr 1894, 34.
 - 70 Torr, ibid.; Bass 1972, 18.
 - 71 Genesis VI 14. *The Epic of Gilgamesh*, trans. N. K. Sandars (Harmondsworth 1970) 106.
 - 72 Morrison & Williams 1968, 45; Gray 1974, 94.
 - 73 Torr 1894, 35–6. Cf. Morrison & Williams 1968, 197.
 - 74 Torr 1894, 36–7.
 - 75 Marx 1946, 31.
 - 76 The blue cloth may be marking the steering oar of the most esteemed ship. Such cloths were at times attached to the sterns of Greek ships (e.g. Morrison & Williams 1968, pl. 21e) and to the stern and bow of ceremonial ships in the Egyptian New Kingdom (Fig. 96). It is possible that the cloth also had a functional purpose: in modern Nubia a flag attached to the yard acts as an indication to the steersman of the direction of the wind (Hornell 1942, 23–4).
 - 77 Cf. Marinatos 1974a, 145.

- 78 Bosanquet & Dawkins 1923, figs. 3 and 4.
- 79 C. Renfrew 1967, pl. 3, no. 12.
- 80 Marinatos 1933, pl. 14 (9).
- 81 Cf. Tsountas 1899, 90, figs. 16–22; *PM* II, 241, fig. 138; Marinatos 1933, pl. 13 (1–8), for further examples.
- 82 A table with the distribution of this motif (which is restricted to Crete and the islands) is provided by Mountjoy *et al.* 1978, 154, table I ('starfish', fig. 3.5). See also Morgan 1984, n. 14, for references.
- 83 *PM* I, 479–80, fig. 343.
- 84 P. Warren, 'A stone vase-maker's workshop in the Palace of Knossos', *BSA* 62 (1967) 195–201 at 197–8.
- 85 The second star is reconstruction.
- 86 But cf. Immerwahr's interpretation of the image as a griffin (1977, 182).
- 87 On butterflies see Tzavella 1968.
- 88 Zakros: Hogarth 1902, nos. 71, 72, 74, 75, figs. 17, 19, pl. 8. Ayia Triada: Levi 1925–6, nos. 29, 30, 35, figs. 53, 54, 58, pl. 10. Zakros ivory: Platon 1971, 148.
- 89 *PM* I, 705, fig. 529d and *PM* II, 789, fig. 515; *PM* III, 148, fig. 98. *PM* II, 787f., fig. 514 and *PM* II (part II), col. frontispiece (Priest King relief). Nilsson 1950, 195, fig. 90 (axe, Phaistos).
- 90 Mylonas 1973, pl. 99a (sword). Karo 1930, pls. 28 (2, 4) and 34 (discs); pls. 26 (51) and 24 (49) (cut-outs).
- 91 E.g. *CMS* V (II), no. 677b–c (Thebes).
- 92 *PM* II, 788–9; *PM* III, 149–51. Evans' interpretation of the butterfly as a symbol of life after death in Minoan art is partly based on the Ring of Nestor. Cf. Nilsson 1950, 45–7, *contra*.
- 93 Marx 1946, 31.
- 94 Torr 1894, 65; Casson 1971, 344–5.
- 95 Morrison & Williams 1968, 134 (see also 197). Cf. Casson 1971, 346 n. 8.
- 96 Apollonius Rhodius, *Argonautica* II 601–2, IV 580–8.
- 97 *Iliad* XV 716–17.
- 98 Above, p. 54 n. 115. Marinatos, on the other hand, interpreted it as a hawk (*Thera* VI, 51).
- 99 Faulkner 1940, 7.
- 100 Marinatos, *Thera* VI, 50; 1974a, 147. Gillmer 1975, 323.
- 101 Tsountas 1899. Tsountas held that the projection extends aft; he was followed in this by Evans, who believed that the projection was a fixed rudder (*PM* II, 240).
- 102 For recent reviews of the controversy see Casson 1971, 40–2; Johnstone 1973. To the works cited by these authors should be added: Betts 1973; Gray 1974, Appendix A (here the view is expressed that the high end is the stern, but although this was published alongside Marinatos' chapter on the Thera ships (1974) it was written before the discovery of the paintings and was delayed in publication); Basch 1983 (who aptly comments (395) that in ancient representations it is hard to distinguish between a cutwater and a ram); Raban 1984 (for the supposition of 'dual directionality').
- 103 Casson 1975, 7. Casson correctly points out that Marinatos 'makes no attempt to bring the evidence of the Thera boats to bear on the point' (*ibid.* n. 15). In 1933 Marinatos held the high end to be the stern (1933, 182–8). As Casson observes, in recent literature Marinatos notes the similarity of the 'streamers' on the prows of the shipwrecked vessels to this feature on Early Cycladic ships – on the end which he had taken to be the stern – 'without exploring the implications of his observation'. Marinatos' treatment of the subject of the two ends on the Thera ships is restricted to a discussion of relative height; thus he claims that if one removed the decorative prow attachment, the stern would in fact be higher than the prow, as he had previously claimed. Since, however, the comparative Cycladic–Minoan ships to which he refers also have decorative prow attachments, the argument has no bearing on which end is the higher.
- 104 Cf. Johnstone 1973, 10.
- 105 Clowes 1930, 19; Marx 1948; Kirk 1949, 125–6; Digby 1955; Landström 1961, 26–7; Casson 1971, 35; Gray 1974, 34. Digby (739, fig. 540) has diagrammatic sections illustrating the development of the keel from a dugout hull, the side planking having been added to the dugout until the latter becomes so small as to form a sort of keel. For further comparative examples of plank-built boats with bifid extremities formed by extensions to the keel see Hornell 1946, 202–3, 210.
- 106 Cf. the EM II clay model from Palaikastro (Bosanquet & Dawkins 1923, 7, fig. 4). On an EM model from Mochlos (Marinatos 1933, pl. 14 (20)) the projection continues from the base of the hull at both ends.
- 107 Gibson (1947, 165) suggested that the projection may have been changed from stern to bow as early as the Middle Minoan period. While the assumption of a change-over is vindicated by a comparison of the Thera painting with the examples from the end of the Bronze Age cited above, the date of the change was obviously later than Gibson thought. A Middle Helladic sherd from Iolkos (Vermeule 1972, 259, fig. 43a) may provide an early example of the projecting bow, but the published drawing is heavily restored. Even more unreliable is the Dorak dagger (J. Mellaart, *ILN* 28 Nov. 1959, 754) considering the circumstances under which it was discovered (F. Schachermeyr, *AA* 1962, 331ff., doubts its authenticity).
- 108 Marinatos 1974a, 146, fig. 27; Casson 1975, 8, fig. 6. From bird's-eye-view, Marinatos has shown the lower structure as triangular, the two sides converging to an apex; Casson makes the structure squarish, the edges running straight from the sides of the hull so that the end is blunt and of the same width as the centre. On both drawings the upper structure is drawn as a narrow rectangle, the same width at the point where it joins the hull as where it ends. Such a construction is implausible; as its function was presumably to support the lower flat structure against the hull, this part would need to curve around the stern, sloping down from the upper ridge to where it joins at the base. Thus seen from above it would be wider at the juncture with the hull than at the end.
- 109 Gillmer 1975, 323.

- 110 Marinatos 1974a, 147 n. 333a. Cf. Buchholz 1975, 8; Basch 1983, 406 (who argues that the structure should be thought of as below the water-line).
- 111 *PM II*, 240. Cf. Pendlebury 1967, 271; Hutchinson 1968, 92; Branigan 1970a, 191. The fixed stern rudder was not, it appears, actually in use until the 13th c. A.D. (Landström 1961, 69; cf. G. F. Hourani, *Arab Seafaring* (Beirut 1963) 98–9). Such an interpretation applied to the structure on the Thera ships would be implausible, for a quarter rudder and a stern rudder used simultaneously would be an *embarras de richesse*.
- 112 Casson 1975, 8. The aft of the sailing ship is, in fact, reconstructed (see Fig. 70) but there does not appear to be any evidence for the side plank or the ropes on the small area of hull which survives.
- 113 *Ibid.* 7.
- 114 Tilley & Johnstone 1976, 289–90. Cf. Cervin 1977 and Gillmer 1978 for further comments.
- 115 Marinatos 1974a, 146.
- 116 Marinatos, *Thera VI*, 50; *AAA 6* (1973) 292; Marinatos 1974a, 147. Marinatos' interpretation of the ἐφόλκιον (*Odyssey XIV* 350) as a stern projection is based on that of Ameis-Hentze (Marinatos 1974a, 147 n. 337). The Loeb also translates 'lading-plank' (after Monro), though tentatively. The main criticism of this interpretation has been that while Homeric ships were beached stern-to, Odysseus slips down the structure into the water (Morrison & Williams 1968, 49, 198; Gray 1974, 102).
- 117 D. Woolner, 'Graffiti of ships at Tarxien, Malta', *Antiquity* 31 (1957) 60–7.
- 118 See the ships to the left of those reproduced in Fig. 74 (Landström 1970, 122–3, fig. 372; Naville 1898, pls. 74–5).
- 119 Johnstone 1973, 11, suggests stern-first beaching but does not support the suggestion with evidence. Cf. on beaching with the aid of a projection: Marinatos 1933, 215–16; Cohen 1938, 493; Gibson 1947, 165–6; Kirk 1949, 126–7; Hodges 1971, 92.
- 120 Torr 1894, 101–2. For examples see: Morrison & Williams 1968, pls. 12b, 13, 15a–b, 19, 20a, and 26a (where it is in use). The ladder first seems to occur in the 6th c. (*ibid.* pls. 12b and 13).
- 121 Marinatos 1933, 210–11.
- 122 Marinatos 1974a, 147.
- 123 Casson 1971, pl. 74; Morrison & Williams 1968, pl. 4e.
- 124 R. M. Dawkins, *JHS Supplement no. 5* (1929) pls. 109–10, pp. 214–15; Morrison & Williams 1968, pl. 10d.
- 125 Gray 1974, pl. 1e. Marinatos cites this and the Sparta ivory (on which a man crouches on the prow) as examples of the use of stern and bow projections as lavatories, and suggests an analogous use for the Thera stern projection (1974a, 147–8).
- 126 R. G. Hood comments 'Under the stern is a vertical steering oar . . . The men are boarding by means of a "gang-plank" . . . which is probably in fact the second steering-oar adapted by the artist for this special purpose, as on other early representations' (*AJA* 71 (1967) 83); cf. Morrison & Williams 1968, 36. On ships at the end of the Bronze Age, such as that illustrated in Fig. 88, the angle and breadth of the steering oar could also have accommodated such a double purpose of rudder and gang-plank.
- 127 Doumas 1965 and 1970b.
- 128 Doumas 1970b, 287 (cf. 1965, 48–50).
- 129 Casson objects to the interpretation of the structure as a gang-plank partly on the grounds that the vessels under oar and sail and those in the Shipwreck scene lack the feature and 'their crew members presumably had just as much need of getting ashore' (1975, 8). This, surely, misses the point. One would not expect to find a detachable landing and boarding plank on ships in the process of being wrecked (cf. comments by Tilley & Johnstone 1976, 290, on stowed gang-ways in sea battles (which they, like Marinatos and Casson, take this to be) and Casson 1971, 235, on the same issue). The vessels under oar and sail lack the passengers common to all those with the stern projections.
- 130 Evidently it must be assumed that the ships turn as they approach the harbour so that the stern gang-plank may be put to use. The artist could not have simultaneously shown the positions for (a) boarding, (b) journeying, (c) landing, in a single horizontal wall space. Two of the small boats are moored with stern to shore.
- 131 Cf. Effenterre 1978, 595–6, where the lines are interpreted as a rendering of the stern cabin.
- 132 Cf. Hutchinson 1968, 95–6.
- 133 *PM II*, 244, fig. 141a–b.
- 134 On two other incised drawings of boats from the same site a simple structure occurs at one end. Blegen took this to be the stern (1949).
- 135 Warren 1979a, 126–7.
- 136 See: W. M. F. Petrie, *Prehistoric Egypt* (London 1920) 19–20, pls. 19–23.
- 137 The Old Kingdom royal ship of Cheops had a deck-house made of wooden screens (perhaps originally covered by fabric) aft of midships and columns for an awning nearby; at the bow, more columns supported a small baldachin (Landström 1970, 28–9, photograph p. 85, illustrations 89–90). For Middle Kingdom models of boats see Reisner 1913; Winlock 1955.
- 138 Fig. 92, from a sporting boat, has a single shield; the travelling boats for official business had two (Winlock 1955, pls. 33, 35, 39, 42, 43). For the type of shield, compare those held by models of marching warriors from Suit, also of the Middle Kingdom (Pritchard 1969, pl. 180).
- 139 Marx 1946, 29; Landström 1969, 22; 1970, 98–9.
- 140 M. C. Shaw 1980 and 1982 (with proposed reconstructions of the actual cabins: figs. 3–5). Cf. *contra*: Hirsch 1980, 462.
- 141 Cf. Middle Kingdom ship models on which the fore side of the stern cabin is shown to be open (Winlock 1955, pl. 51).
- 142 Marinatos 1974a, 148.
- 143 Marinatos judged the cabin on the flagship (2) to be the one represented in large scale in Room 4, and the occupant of the cabin, therefore, to be the admiral of the fleet

and the owner of the West House (*Thera* VI, 43). However, the proportions of the flagship cabin – wider than it is high – differ both from those of the remaining ships in procession and from those of the Cabins in Room 4. This fact, and the lack of the curved chain of floral bunting, shows that the flagship does not provide the sole prototype.

- 144 Model litter: *PM* I, 220, fig. 166G; the litter is associated with a model shrine. Palanquin Fresco: *PM* II, 770f., figs. 502–3, where the fragments are reconstructed with the figure seated within a palanquin; Platon (1959, 332) however, argues that the object is a folding stool; Cameron (*Fresco Atlas*, Catalogue p. 19, pl. 3, fig. 3) suggests that the figure is seated aloft in a shrine in a scene associated with chariots; cf. Hood 1978, 58.
- 145 Winlock 1955, 54, 56.
- 146 Vandier 1964 (IV), 544–68.
- 147 Morrison & Williams 1968, 195.
- 148 *Odyssey* II 416–18.
- 149 Marx 1946, 29; Torr 1894, 58; Casson 1971, 151. It appears from the Cape Gelidonya wreck that the living quarters of the merchant ship were situated near the stern, for personal possessions and remains of foodstuffs were found in this area (Bass 1972, 24).
- 150 Marinatos 1974a, 148.
- 151 For an Egyptian example see Fig. 95 (Tomb of Huy); cf. Marx 1946, 29; Landström 1970, fig. 327. On the Greek insignia pole see Casson 1971, 346: 'The stylis was a pole, generally fitted with a short cross-piece, which was set up alongside the aphlaston and which bore either a device symbolizing the guardian deity of the ship or his name written out.' Casson (1975, 6) refers to this Greek stylus with reference to the poles on the Thera ships, but comments that as these are not normally found on Greek ships prior to the 5th c. it is unlikely that the same tradition is represented. However, the function of the stylis is not dissimilar to that of the standard on Egyptian ships of the Bronze Age.
- 152 Marx 1946, 78; Clowes 1930, 31.
- 153 See in particular Säve-Söderbergh 1946, ch. 3 (esp. p. 42), on naval activity during the 18th dynasty.
- 154 E.g. Davies 1941, pls. 24 and 27; 1925, pls. 24–5; 1927, pls. 9 (from the Tomb of Userhêt, detail illustrated here as Fig. 96), 13, 29, 36. Most examples are from funerary processions, but compare the canopy (in which the pharaoh stands) in a New Year gift-offering scene in the Tomb of Kenamun: Davies 1930, pl. 15. The idea is most developed during the New Kingdom but derives from earlier structures of simpler design. On the canopy on Middle Kingdom models of boats Reisner comments: 'The papyrus-shaped boats all have a cabin or canopy to shelter the owner. This canopy is, as a rule, of the same chapel-like form as that of the funerary barks. This seems to indicate that the boats . . . were more of a ceremonial nature' (Reisner 1913, p. xxi).

10 The nautical procession

- 1 Four have been published, though Marinatos reports a total of eight such panels and adds that 'The position of each one upon the four walls of the room is sure' (*Thera* VI, 26). Cf. Dumas 1983, 83.
- 2 Marinatos comments at one point that there were probably eight large ships altogether (1974a, 143; AAA 6 (1973) 289), and at another that there were seven in the fleet (*Thera* VI, 43). The discrepancy is perhaps accounted for by the unpublished fragment.
- 3 Dumas 1983, 84.
- 4 The gesture occurs on one of the Zakros sealings (Hogarth 1902, 77, fig. 2, no. 3). Amongst Procession Frescoes (detailed, with bibliography, by Lang 1969, 51–62; Hood 1978, 65–6, 78–80), fragmentary figures from Thebes and Tiryns best exemplify the offering gesture (Reusch 1956, 20–1, figs. 9–10; *Tiryns* II, 71, figs. 27–8); cf. a fragment from Orchomenos (AAA 7 (1974) col. pl. 2a). See also the Tiryns Offering Ring (*CMS* I, no. 179); the daemon recurs with this gesture on sealstones (e.g. Levi 1957–8, 124, fig. 313 (Phaistos); *CMS* I, nos. 231, 232 (Vapheio)) and on impressed glass plaques from Mycenae (Wace 1949, pl. 67; Mylonas 1966, pl. 126, nos. 22–4). A metal brazier from Δ 16 at Akrotiri provides an approximate parallel for that held by the Priestess (*Thera* V, 76); such objects are commonly found on Aegean sites. Marinatos' comment that, as the Priestess holds the brazier from below rather than by the handle, the metal cannot have been hot with charcoal (*ibid.* 43) overlooks the iconographic significance of the gesture, which identifies the scene as one of offering and is 'applied regardless of the way that the object might normally have been held.
- 5 On the garment see Ch. 6, p. 94 and n. 10. Association of a female figure with a snake is first found in the form of an anthropomorphic vessel from Koumasa (Xanthoudides 1924, pls. 2, 10, no. 4137; Branigan 1970a, 109, fig. 26) and is best known in the faience figurines from the Temple Repositories (*PM* I, 500ff., figs. 359–62, 377 and col. frontispiece). On the snake in religion see Nilsson 1950, 311ff.; *PM* IV, 140ff. The red lips of The Priestess are matched by those of La Parisienne; the red ear defies convention, though it is also adopted by a miniature scale woman in one of the Pylos fresco fragments (Lang 1969, pl. C, 33 H sw).
- 6 *Odyssey* XV 222–3.
- 7 Casson 1971, 181–2; Lethbridge 1952, 75.
- 8 Casson 1971, 182 n. 69, fig. 146.
- 9 Gardiner 1957, 501 (R 7).
- 10 Cf. Casson 1975, 3, 7; Morgan (Brown) 1977 and 1978; Cervin 1977, 150; Gillmer 1978, 127, 130.
- 11 Morgan (Brown) 1977, 145; 1978, 641. Sakellariou 1980 comes to the same conclusion, that the festival has to do with the inauguration of the new sailing season, also citing the Isis festival as a parallel. However, her further interpretation of the North Wall scenes as part of the same festival – the warriors as guard of honour, the men in the

- water as swimmers displaying their skill – differs from the one that I have presented here and in the works cited above. N. Marinatos draws attention to the war elements and concludes that the event depicted is both a war and marine festival (1981; esp. 1983, 4).
- 12 See in particular Hornell 1946, ch. 19; on propitiatory rites: 249, 252, 273, 279; skin of a sacrificed animal: 278, 281–2 (cf. Lethbridge 1952, 65–6). On animal sacrifice associated with ships in ancient Greece see Morrison & Williams 1968, 197–8.
 - 13 A comprehensive account of such processions is given by Canney 1938.
 - 14 Ibid. 133–6. Öpet festival: Blackman 1923, 70–9. Isis festival: Apuleius, *Golden Ass* XI.
 - 15 Blackman 1923, 75. Cf. Frankfort 1948, 79ff. (esp. 82) on the Sed festival.
 - 16 Apuleius, *Golden Ass* XI 8 (the people), 10 (priests), 16 (the great priest consecrates the decorated ship, which is then launched).
 - 17 Landström 1970, 120–1, cites the representation of the Öpet festival in the Temple of Tutankhamun at Luxor in which Amun's vessel is occupied by the king depicted in large proportion, bearing an offering of incense to the god, and paddling. Cf. Casson 1975, 9, on the Thera ships: 'Egyptian influences appear . . . in the archaic practice, adopted on ceremonial occasions, of using paddlers.'
 - 18 See W. R. Paton, *The Greek Anthology* IV.X, Epigrams 1–17 (esp. 1, 2, 4, 5, 14, 16), for addresses to harbour gods referring to the season with these characteristics.
 - 19 Sakellariou 1980.
 - 20 Semple 1932, 579–80. Cf. Casson 1971, 270–2; Gray 1974, 8ff., 136.
 - 21 Bent 1965, 132.
 - 22 Ibid. 142.
 - 23 Megas 1963, 51.
 - 24 Palmer 1955 (and 1965, 136, 137–8). Cf. Bennett 1958, 29ff.; Ventris & Chadwick 286, 459, 480; and on *po-ro-wi-to-jo* with reference to the Thera Ship Procession: Morgan (Brown) 1978, 641 n. 5; van Leuven 1979, 127–8 n. 49.
 - 25 Ventris & Chadwick, 459.
 - 26 Ibid. 284.
 - 27 Cf. the related word *po-ro-wi-to* on PY Fr. 1221, Fr. 1232 (Fr. 1218?), less conclusively a month-name (Bennett 1958; Ventris & Chadwick, 459).
 - 28 Ventris & Chadwick, 305–8, FP 1 and FP 13.
 - 4 Vandier 1964, 734.
 - 5 Cf. *ibid.* 717 and 757.
 - 6 A genet or a cat is cited by Vandier in 7 out of the 22 examples of the genre known from the New Kingdom (*ibid.* 765).
 - 7 Colour: *Fresco Atlas*, pl. D, fig. 6.
 - 8 *PM* I, 540–1; *BSA* 7 (1900–1) 59.
 - 9 *Fresco Atlas*, Catalogue of plates p. 23.
 - 10 Included in the reconstruction in the Herakleion Museum. See also Smith 1965b, 77.
 - 11 Evans (*PM* II, 354–5) interpreted them as roe deer. Cameron (1968, 29, no. 27) compares them to goat or agrimi; cf. Hood 1978, 52.
 - 12 *Thera* VII, 34, col. pl. L. See also N. Marinatos 1984b, 68–9.
 - 13 M. C. Shaw 1978; Alexiou 1955, 318, fig. 2.
 - 14 Cf. *CMS* I, no. 233, seal from Vapheio showing a female figure in the same posture holding a waterfowl in each hand.
 - 15 Higgins 1979, 25.
 - 16 The restricted theme of bird (sometimes identifiable as waterfowl) and papyrus continues in different idiom on LM IIIa pottery (e.g. *PM* IV, 337, fig. 280).
 - 17 The relationship between the Town Mosaic, the Thera painting, the Siege Rhyton and the Epidaurus stone fragments is discussed by Sakellariou 1981. See also Warren 1979a (128 on the Town Mosaic).
 - 18 *PM* I, 309, fig. 228, also Polinger Foster 1979, 99–115.
 - 19 *PM* I, 311–12. Smith 1965b, 42–3, 67, and Vermeule 1972, 100, 102–3, accept the connection; but cf. Hooker 1967, 270.
 - 20 *PM* I, 310–11, fig. 229a.
 - 21 Not illustrated here. See *PM* I, 309, fig. 228q.
 - 22 *PM* I, 310.
 - 23 *PM* I, 311.
 - 24 For reconstructions of the entire rhyton see Smith 1965b, fig. 85 (old reconstruction as in the Athens National Museum) and fig. 84 (new reconstruction; cf. Vermeule 1972, pl. 14). The most recent study of the rhyton is Sakellariou 1975. Several fragments not previously published are discussed by her and included in a drawing by Iliakis (196, fig. 1); the latter also makes further alterations to the lay-out of the pieces. A bibliography is provided by Sakellariou (195 n. 5).
 - 25 See in particular Sakellariou 1971. For a photograph of the fragment see Kaiser 1976, pl. 27a.
 - 26 *Ergon* 1975, 106, fig. 102 (upside-down); and Sakellariou 1981, discussion and pl. 180β.
 - 27 Sakellariou 1971, 14; 1981.
 - 28 Sakellariou published a fragment of a third figure, incorporated into the reconstruction by Iliakis (1975, fr. 6, figs. 1–2, to the right of the main battle scene).
 - 29 Sakellariou 1971, 11–12.
 - 30 Sakellariou 1975, 200–2.
 - 31 *Ibid.* pl. 4.
 - 32 Lang 1969, 24 H 64, pls. 18, 124; 22 H 64, pls. 16, A, M.
 - 33 *Ibid.* 16 H 43, pls. 12, 121, B.

11 Genre scenes

- 1 First recognized by Evans: *PM* III, 113–18; *PM* I, 541; *PM* II, 361.
- 2 British Museum 1969, 15.
- 3 For detailed discussions and illustrations of these themes see Vandier 1964 and 1969; Altenmüller 1967. A list of fowling scenes is provided by Vandier 1964, 718–19 (Old and Middle Kingdom), 758–9 (New Kingdom).

- 34 Ibid. 31 H nws, pls. 22, 23, B, N.
- 35 Demacopoulou 1971, pl. 12; Schachermeyr 1976, pl. 36.
- 36 PM III, 127, fig. 81.
- 37 Rodenwaldt 1921, pl. 3.
- 38 Bulle 1907, pl. 28.
- 39 PM II, 106, fig. 59; Warren 1969, P473.
- 40 E.g. Strommenger & Hirmer 1964, pl. 72 and col. pl. 11 (Ur Standard); pls. 117, 122–3 (Akkadian stelai); pls. 206, 209, 214, 237 (Assyrian reliefs). Cf. Pritchard 1969, pl. 296 (Hierakonpolis palette, Egyptian 1st dynasty).
- 41 E.g. Ahlberg 1971, 71–106.
- 42 See Hooker 1976, 95 (Mycenae), 99 (Tiryns), 103 (Athens), for references.
- 43 See in particular: Ormerod 1924. For the interpretation of the Siege Rhyton as an act of piracy see Reichel 1901, 164ff.; Staïs 1915, 48; Hooker 1967, 270. For the Thera painting as a scene of coastal raiding see Warren 1979a.
- 44 *Iliad* IX 138–40, 278–82, XVIII 326–7; *Odyssey* IX 39–61, XIV 199ff. (esp. 216–21 and 262–5), XV 427, 449–53, XVI 426–30. Cf. *Odysseus*’ epithet of ‘the sacker of cities’: *Odyssey* XIV 447, XVI 442.
- 45 Evans, PM III, 89–99; Smith 1965b, 68; Hooker 1967, 271; Sakellariou 1975, 205.
- 46 Evans, loc. cit.; Smith, loc. cit.
- 47 Marinatos 1926, 86, 89; Karo 1930, 307; Sakellariou 1975, 205–6.
- 48 Sakellariou 1971, 14.
- 49 Warren 1979a. Cf. above Ch. 8, p. 120.
- 50 Sakellariou 1975, 207.
- 51 Sakellariou 1980. See above, Ch. 10, n. 11.
- 52 Warren 1979a, 121–2.
- 53 Vermeule 1972, 102, 105; Hooker 1967, 271.

12 The West House Theme

- 1 The arguments presented in this chapter first appeared in AE 1983.
- 2 Cf. Rutkowski 1976, 232; Warren 1979a, 125; Iakovides 1981. Rutkowski modified his idea of The Meeting as a mountain cult place in his paper at the Thera Congress (1978) when he suggested that the areas of blue represent water and the place is therefore a spring sanctuary. There are, however, no internal ‘water’ signs such as designate rivers elsewhere in the paintings (pp. 13–14, 35–8) and, unless we are to understand the man walking on the blue area on the left as Christ-like in attitude, this could not be water but must be a coloured rock-face directly comparable to those of the adjoining scene and the Arrival Town (a point made by Iakovides in the Congress discussion). Warren first expressed the idea that The Meeting represents a peak sanctuary in a lecture at Southampton University in October 1975.
- 3 On peak sanctuaries see Platon 1951; Faure 1963, 1967, 1969, 1972; Rutkowski 1972, 152–88; Bintliff 1977b (Part I, ch. 7, ‘Ritual aspects of settlement’); Peatfield 1983. The number of possible peak sanctuaries identified grows at a steady rate and currently stands at over fifty (Peatfield 1983, 273 n. 2).
- 4 Bintliff 1977b, 151–3. Cf. Mycenaean finds at Apollon Maleatas above Epidauros: Lambrinoudakis 1981, with references to preliminary reports; Peatfield (1983, 273 n. 1) and Hägg (in Hägg & Marinatos 1984, 120–1) argue that the sanctuary basically reflects local cult.
- 5 J. L. Caskey, *Deltion* 22B’2 (1967) 476–9, plan 7 (description of remains and possibility of the building as a watchtower). *Deltion* 22B’2 (1968) 390, plan 1, shows the position of the hill of Troullos in relation to the site of Ayia Irini. See *Hesperia* 35 (1966) 375–6 (identification of the structure as a watchtower for ships); *Hesperia* 40 (1971) 392–5, and fig. 13. Caskey comments: ‘The conjecture that the Troullos was used as a watch tower is neither confirmed nor denied by the form of the buildings. One may observe that the stone vessels suggest religious practices and that the central structure may well have been a shrine (perhaps to a god of storms?). If that were the case, however, it would still not preclude the posting of watchmen who signalled the passage of ships’ (1971, 394–5).
- 6 1983, 55–6. Doumas identifies the remains with the watchtower in the Arrival Harbour.
- 7 Warren 1969, P 476 (HM 2397) (= Kaiser 1976, pl. 10a), probably from the same vessel as P 474 (HM 426) (= Kaiser pl. 6a), see p. 181. See also Smith 1965b, fig. 93 (cf. above, Ch. 4, n. 153).
- 8 On tripartite shrines see J. Shaw 1978a. The article includes a conjectural perspective drawing of the Zakros shrine (436, fig. 9).
- 9 Ibid. 448.
- 10 Rutkowski 1972, 186.
- 11 Ibid. 188.
- 12 Cf. Dietrich 1969, 260; Hood 1971a, 135. Juktas: A. Karetsoy, ‘The peak sanctuary of Mt Juktas’, in Hägg & Marinatos 1981, 137–53; and reports in *Praktika* and *Ergon* 1974 onwards.
- 13 E.g. Bintliff 1977b (Part I), 149–50, 158.
- 14 The Prophet Elijah embodying, according to many scholars in Greek religion and folklore, the Christian transformation of the Zeus role as weather-lord. See for example Semple 1932, 529; Megas 1963, 142–3. On Zeus in general: A. B. Cook, *Zeus. A Study in Greek Religion*, vols. I–III (Cambridge 1914–40). Cretan hill-top chapels are more often dedicated to Aphenides Khristos (Pendlebury 1939, 272 n. 3).
- 15 Rutkowski 1972, 155 esp. nn. 6–7, and 181. A rare exception is the sanctuary on Kophina (alt. 1231 m).
- 16 A distribution map of sanctuaries is provided by Faure 1969, 175, fig. 1.
- 17 *Thera* VI, col. pl. 7, left.
- 18 The connection was implied by Warren: ‘Although there is no physical join between this scene and the mountain scene, no. 1, the men on the roof may well be looking towards the mountain group and so not be far from them; they wear white and grey–blue robes just like the men on

- the mountain peak' (1979a, 118, cf. 125). The new placing of the fragment provides the connecting link between the scenes of meeting and shepherds.
- 19 Rutkowski 1972, 182–3; Bintliff 1977a, esp. 98–103 and maps in figs. 20–1.
 - 20 Rutkowski 1972, 184; Bintliff 1977a, 77, 99, 102; 1977b, 146–7, 150.
 - 21 Platon 1971, 167. Cf. J. W. Shaw 1978b, 435 n. 12.
 - 22 Vaux 1961, 279.
 - 23 Ibid. 279–81, 284–8 (esp. 287).
 - 24 Faure 1967, 132.
 - 25 Rutkowski 1972, 172; cf. references cited in nn. 52 and 53.
 - 26 Faure, esp. 1963, 508; 1967, 132–3; 1969, 185.
 - 27 Cf. Semple 1932, 522: 'The assignment of Zeus to the mountain-tops was a rational process for the ancient Greeks. A race of farmers and seamen, concerned for all atmospheric conditions, wind as well as rain, they observed that the mountains gave the surest weather indications. Certain peaks which acquired local fame as "weather-breeders" became identified with Zeus. Theophrastus states that aside from particular constellations which were the celestial timekeepers of the winter rains, weather signs were found chiefly on high mountains, especially those rising from the sea and exposed to rain-bearing winds' (*De Signis Tempestatis*, I, 3).
 - 28 Megas 1963, 115–16.
 - 29 Ibid. 113–16, esp. 114. Cf. pl. 11 and p. 16.
 - 30 Ibid. 84.
 - 31 Ibid. 142–4. Cf. Bintliff 1977b, 152.
 - 32 Cf. the modern Greek *τάματα*, votive metal plaques of parts of the body including limbs offered in ritual chapels and wayside shrines.
 - 33 A conclusion also drawn by Bintliff 1977a, 98–103; Appendix 1: 'Culture, religion, and economics', in Blackman & Branigan 1977, 80–3; Bintliff 1977b, 146–7.
 - 34 Between the meeting and the flocks, is a sheep fold, in front of which are two women who have just drawn water from the well and are balancing the pitchers on their heads as they approach the direction of the flocks. This is a normal, daily activity, and to see more significance in it could be rash. But, if only as a curiosity of coincidence, the following should be mentioned. One of the days celebrated throughout Greece as the beginning of the new season is 1 May. Among the rituals observed on this day (which include invocations to the Prophet Elijah for good weather) the girls of the villages fill their jugs or pitchers with fresh water which they then sprinkle over the sheep in the fold (Megas 1963, 120). With regard to ancient Greek mountain sanctuaries, Semple comments that these were frequently situated near springs or wells which were thereby associated with the much-wanted water which the ceremonies invoked (1932, 578).
 - 35 Bintliff 1977b (part 1), 159. Cf. Ventris & Chadwick, 303 and 478, on month-names at Knossos and Pylos.
 - 36 Warren 1979a, 125: 'Since the mountain peak ceremony consists of figures in robes and kilts exactly like those on board the ships it might be that this first surviving scene, possibly the beginning of the frieze, was the seeking of blessing for the success of the expedition. However, given the probable relationship with the men on the roof near the animal pen in scene no. 2, it is perhaps more probable that the mountain peak scene was located in the place to which the ships were going.' Cf. n. 18 above.
 - 37 Identification of narrative sequence depends on the preservation of relatively large-scale works containing multiple scenes, and Aegean wall paintings are not usually well enough preserved for this to be traced even if it did exist. Historical narrative has not been considered as a possibility by scholars, with the notable exception of the 'siege' scenes discussed in Ch. 11, where it was concluded that it should be termed a genre scene. The question of mythic narrative in Aegean art has been discussed by Banti 1954, Vermeule 1958, Karageorghis 1958. Nilsson's assumption that aspects of Classical mythology are reflected in Mycenaean religion is not generally accepted by these scholars. While Karageorghis considers that myth and epic may be represented in certain examples of Mycenaean pottery, Banti and Vermeule are more sceptical.
- For comparative material on narrative art, see the Symposium on Narration in Ancient Art held in Chicago in 1955 (Kraeling *et al.* 1957) which covers Egypt, the Near East, Classical Greece and Rome. Cf. Carter 1972 on Geometric Greece. The conclusion of the Symposium was that narrative is a refinement within the broader context of representational art and took a considerable time to emerge as a fully developed idea. Perkins on Babylonian art (p. 55) comments on two methods of narrative: 'allusive rather than explicit, employing the culminating scene . . . to stand for the entire story'; and 'showing successive episodes of a story juxtaposed without clear delimitation'. (Cf. Moscati 1963, 75–6.) But true historical narrative is not definable until the Assyrian reliefs. In Egyptian art, Kantor finds very little that can be described as narrative before the 19th dynasty and the reliefs of Seti I. From the 18th dynasty, the most clearly defined series of real events is depicted in the Punt cycle of Queen Hatshepsut. But for the most part, tomb painting contains activities of daily life and while 'The processes may involve some consecutive action . . . they are not stories concerning individuals' (p. 44). Siege scenes are generalized rather than specific. Funeral scenes depict a sequence of events, and Kantor's comments here are interesting in the light of our analysis of the links in the Thera miniatures: although often the episodes are just juxtaposed 'they can be linked by a figure who belongs to one episode but turns to look in the direction of the adjacent one', and for the first time we have 'the representation of specific functionaries who are identified by their attributes . . . and who reappear in successive scenes'. Even so, these cycles are still 'representations of standard, conventional ceremonies' (p. 47). (Cf. Smith 1965a, 4.) For

further work on the subject, see Moscati 1963 (whose definition of narrative is somewhat looser than that agreed upon at the Symposium).

- 38 *Thera* VI, plans 5–7, esp. plan 6, no. 12 (cattle fragment: βοοειδῶν). 4 fragments: TAW I, col. pl. k (lower right).
- 39 *Praktika* 1977 B', 387; AR 25 (1978–9) 34.
- 40 Pritchard 1969, pl. 290.
- 41 Luther & Fiedler 1976, 85, 86. The identification of the fish published by Marinatos (*Thera* VI, 36) is confirmed by the ichthyologist Dr P. H. Greenwood of the British Museum (Natural History), London, who considers that one of the fish represents *Coryphaena hippurus*, and the other perhaps *Sarda sarda* (fam. *Scombroidae*). He notes that both fish are edible. On seasonal migrations of fish and the economic consequences for Aegean fishermen see Bintliff 1977b, ch. 5, 117–30.

13 Thera and the neighbouring world

- 1 The issues are argued more fully in Morgan 1984.
- 2 Niemeier 1980, 21, fig. 4 (8), illustrates an example of a crocus motif on a pot from Phaistos which constitutes a transition between crocus blooms and the crocus pendant; it is here termed sub LM Ia.
- 3 As Hood 1978, 63–4, referring to the rockwork motif listed above.
- 4 The Knossos Procession Fresco is generally dated to LM II, c. 1450 (as Hood 1978, 66); Hawke-Smith proposes LM IIIa, c. 1400 (1976, 71), bringing it close to the earliest mainland Procession Fresco from Thebes. On the offering gesture see p. 143 n. 4.
- 5 Cf. Cameron 1978, 590–1, who argues that this and other features in the Theran paintings suggest that mainland painting may originally have been influenced by that of the Cyclades. Also: Thorpe-Scholes 1978, 446, regarding the eye treatment with reference to the dating question.
- 6 The possibility that some of the Shaft Grave finds were of Cretan manufacture should be borne in mind. See for example Hood 1980, 233–6.
- 7 The fragment is of a man's leg with a boot: L. Morgan, 'The painted plasters and their relation to the wall paintings of the Pillar Crypt', in C. Renfrew, forthcoming.
- 8 Karo 1930, pl. 21 (24); pl. 30; pl. 20 (69 and 38); pl. 20 (61). Cf. Thorpe-Scholes 1978, 441, and Iakovides 1979, 101, on the gold earrings. Thorpe-Scholes lists several parallels with Shaft Grave III (1978, 446) but from these draws too broad conclusions; cf. Negbi 1978, esp. 655; and Laffineur 1983 and 1984 on Thera and the Shaft Graves.
- 9 On international relations see in particular Kantor 1947; Groenwegen-Frankfort 1951; Vercoutter 1954 and 1956; Smith 1965b; Schachermeyr 1967; Kinzl 1977; Kemp and Merrillees 1980.
- 10 J. W. Shaw 1978b.
- 11 Horns: see p. 83 nn. 149–50. Linear A: *Thera* II, 44, pl. 38; *Thera* IV, 14, 43–5, pls. 16a, 109b; *Thera* VI, 14; Palaima 1982, 16, 17–18.
- 12 Niemeier 1980.
- 13 Marthari 1980, 208; see also n. 5. (Marthari comments that imitation of Cretan wares is common but not of Helladic wares.) Cf. Schofield 1982a, 10, n. 9, and 1982b, 18, for similar estimates for Cretan imports from Ayia Irini in EC II and Phylakopi in LC I.
- 14 Warren 1979b, esp. 106, 107 (table III).
- 15 See for example Barber, in Hägg & Marinatos 1984, 181 (fragment of Theran vase from Phylakopi); MacGillivray, *ibid.* 155, fig. 4 (Knossos), 156. Tripod mortars of dacite found in Crete are now thought by Warren to be Theran exports (1979b, 108).
- 16 Scholes 1956, 21, 38–9; Thorpe-Scholes 1978, 439, 445; Barber 1974, 33 and 1978, 379; J. L. Davis 1976, 1979 and 1980; Immerwahr 1977, 184f.; Iakovides 1979.
- 17 Marthari 1980. The pottery is of Middle Helladic tradition though in the LC I/LM Ia/LH I destruction level.
- 18 An understandable situation considering that relatively few pots were found in Circle A. The chronological relationship between the graves of Circles A and B is discussed by Dickinson 1977, 42–4, 46–8, 50–1. The latest in Circle B, which are thought to overlap with those of A (MH III–LH I ceramics), include A, Γ, Δ, N, while B is thought to belong to the middle phase of the Circle. In Circle A, Graves V, IV, and III (perhaps in that order) are thought to be later than VI and II, and earlier than I (which extends into LH IIa). Thus the Graves which show most iconographic affiliations with Thera belong to the middle phase of Circle A, while those with lesser affiliations but with pottery connections belong to the later phase of Circle B. In both cases MH III and LH I pottery co-exist (with the exception of Grave III, which contained only LH I) and the burials fall within LH I. Cf. Vermeule 1975, 8, who suggests that Circle A has elements which may be dated closer to 1450 than to 1500.
- 19 Immerwahr 1977, 189; Iakovides 1979, 101; Buchholz 1980.
- 20 Aström 1971 (on the juglets); Buchholz 1980, 228 (on the pottery); Warren 1979b, esp. 106, 107 (on the stone vases). Buchholz also refers to tripod stone mortars perhaps of Syro-Palestinian origin, but Warren (1979b, 108) has identified these as Theran products of local dacite (cf. n. 15 above on exports).
- 21 Cf. comments by J. L. Davis 1979, 150 and 1980.
- 22 Findings on Naxos indicate that further exploration may be fruitful (Barber 1974, 50; 1978, 371, figs. 3 and 374; see also 1981, 4, 18). Scholes cites Delos as a further point of contact with Crete in LC I (1956, 39).
- 23 Cf. Schachermeyr 1978. For the suggestion that Thera's prosperity was dependent on its role as a maritime staging post, see also Schofield 1982a; 1982b, esp. 18–19; Doumas 1982, esp. 10; 1983, 114, 118–20.

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C The South Wall: The Ship Procession. 1:4.



B The East Wall: The Landscape. 1:4.



